

Index

Museums

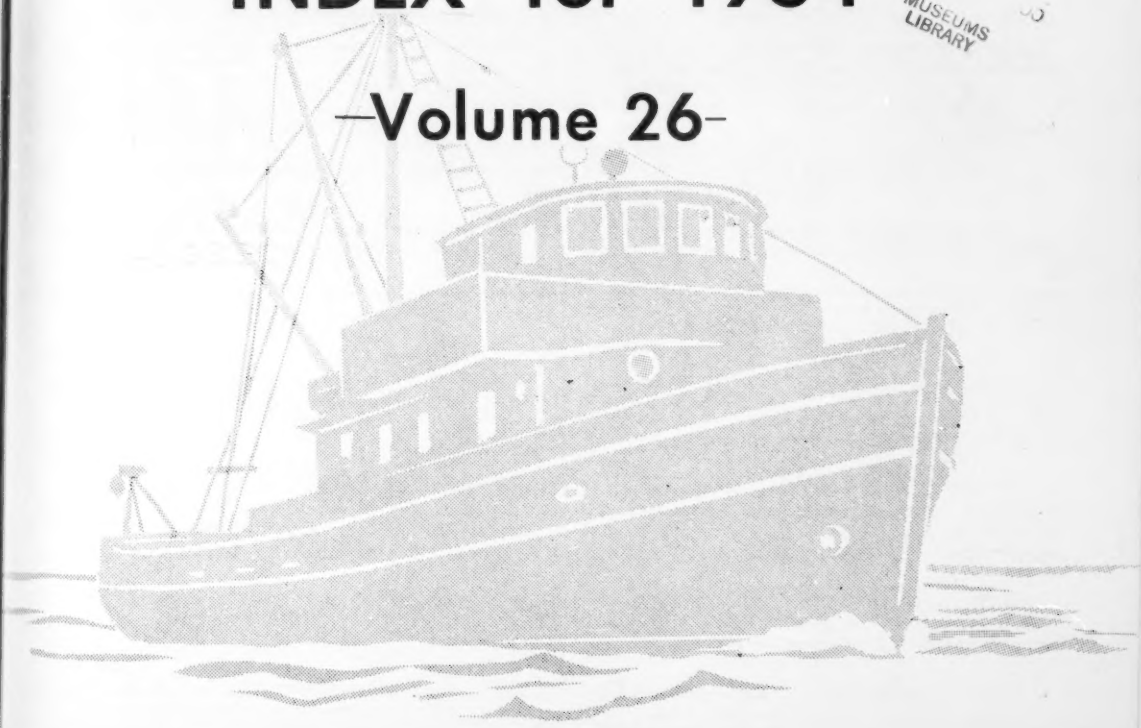
COMMERCIAL FISHERIES REVIEW

DIV. OF FISHES

INDEX for 1964

-Volume 26-

UNIVERSITY
OF MICHIGAN
JUL 1 1965
MUSEUMS
LIBRARY



UNITED STATES DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service
Bureau of Commercial Fisheries
Washington, D.C.

UNITED STATES
DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, SECRETARY

FISH AND WILDLIFE SERVICE

CLARENCE F. PAUTZKE, COMMISSIONER

BUREAU OF COMMERCIAL FISHERIES

DONALD L. MCKERNAN, DIRECTOR

DIVISION OF RESOURCE DEVELOPMENT

RALPH C. BAKER, ASST. DIRECTOR



COMMERCIAL FISHERIES REVIEW



A review of developments and news of the fishery industries
prepared in the BUREAU OF COMMERCIAL FISHERIES.

Joseph Pileggi, Editor

G. A. Albano and H. Beasley, Assistant Editors

Address correspondence and requests to the: Chief, Fishery Market News Service, U. S. Bureau of Commercial Fisheries, 1815 North Fort Myer Drive, Room 510, Arlington, Va. 22209.

Publication of material from sources outside the Bureau is not an endorsement. The Bureau is not responsible for the accuracy of facts, views, or opinions contained in material from outside sources.

Although the contents of the publication have not been copyrighted and may be reprinted freely, reference to the source is appreciated.

Use of funds for printing this publication has been approved by the Director of the Bureau of the Budget, May 1, 1963.

5/31/68

An index of Volume 26, Numbers 1 through 12, issued in 1964. It is a subject index, with an author index for only the feature articles in each monthly issue. Indexing of other material is based on the principal subject with some cross-reference. The use of "_____" in entries denotes the omission (repetition) of the major subject heading which appears in ALL CAPS.

Actions in Congress affecting or of interest to commercial fisheries are indexed only once by subject under the general heading: "CONGRESS, EIGHTY-EIGHTH (First Session)," i.e., there is no cross-reference indexing of those entries.

Publications listed in the "Recent Fishery Publications" section have not been indexed.

Back issues of Volume 26, Numbers 1 through 12, are still available until the supply is exhausted. Copies are available free upon request from the Fishery Market News Service, U. S. Bureau of Commercial Fisheries, 1815 No. Fort Myer Dr., Rm. 510, Arlington, Virginia 22209.

INDEX TO VOLUME 26 (NUMBERS 1-12 INCLUSIVE)--1964

The reference gives the month and the page number

ABALONE

- Australia developing _____ industry; Dec. p. 82.
- Australian exports increase; Oct. p. 51.
- California growth studies and observations by M/V "Nautilus" and M/V "Mollusk"; Nov. p. 23.
- Mexico's Baja California fishery; June p. 50.

ADEN

- Fisheries development project; Oct. p. 50.
- Gulf of Aden fisheries, international interest in; Mar. p. 39.
- Tuna fishery trends, Gulf of _____, 1963; Mar. p. 39.
- Vessel, new, for fisheries research; Feb. p. 66.

AFRICA

- Commission for Technical Cooperation in Africa specialist meeting on crustaceans held in Zanzibar; Apr. p. 40.
- Japanese fishing firm granted license to fish with purse seines off _____; Dec. p. 98.
- Japanese, new, stern trawler for _____ waters; Dec. p. 102.
- Tuna, frozen, Japanese exports to Europe and _____; Apr. p. 59.

AGENCY FOR INTERNATIONAL DEVELOPMENT,
U. S.

- Guinean trawling survey; Aug. p. 1.
- Investment opportunities abstracts available at Department of Commerce field offices; Aug. p. 33.
- Liberia, freezing broadens market for fish in; Jan. p. 62.
- Somali delegation sponsored by _____ to study U. S. fishing industry; Jan. p. 68.

AIRPLANE SPOTTING

- California pelagic fish population survey continued; Feb. p. 12, Mar. p. 12, Apr. p. 12, June pp. 11, 12, Sept. p. 14, Oct. pp. 16, 17, Dec. p. 29.

ALASKA

- Area Redevelopment Administration:
 - cold-storage firm handling fishery products, industrial loan to; May p. 78.
 - technical assistance project to aid earthquake damaged areas in _____; Nov. p. 117.
- Bait herring winter fishery begins near Ketchikan; Mar. p. 8.
- Barge facility, new, being built at Ketchikan; Aug. p. 13.
- Bering Sea:
 - Japanese long-line fishery moves nearer Pribilof Islands; July p. 8.
 - Soviet flounder fishing activities; July p. 7.
- Bottomfish ARA technical assistance project, industry potential to be studied under; May p. 78.
- Bristol Bay:
 - area office moved to town of King Salmon; Jan. p. 8.
 - Japanese king crab fleet; July p. 7.
 - salmon, red, run forecast for 1964; May p. 12.
 - salmon, red, run in 1964 fails; Oct. p. 13.
- Canned fishery products pack, 1963; June p. 9.

ALASKA

- Cargo rates, seasonal, denial of petition for rehearing on Alaska Steamship; Aug. p. 14.
- Clam, butter, commercial digging feasible despite earthquake; Sept. p. 12.
- Commercial Fisheries Bureau Fisheries Loan Program takes emergency actions in _____; July p. 8.
- Crab:
 - Dungeness:
 - prices at Cordova drop; Nov. p. 17.
 - processed by _____ firm; Sept. p. 11.
 - processing operations at Kodiak plant following earthquake; Nov. p. 16.
 - processing started by Kodiak cold-storage plant; Mar. p. 8.
 - reported plentiful off Cape Fairweather; Sept. p. 12.
 - king:
 - conference, second, on technology and processing announced; Mar. p. 9.
 - exploratory fishing plans completed; July p. 9.
 - heavy fishing rate shown on tagged shellfish; Feb. p. 11.
 - Japanese fishing activity during June; Sept. p. 11.
 - Kodiak landings low; Dec. p. 24.
 - Kodiak processing operations; Nov. p. 16.
 - processors' plans; Aug. p. 12.
 - Soviet fishing activity during June; Sept. p. 10.
 - tag recoveries reduced by heavy winds; Mar. p. 9.
 - supplies ample for processing plants at Shumagin Islands and _____ Peninsula areas; Nov. p. 17.
- Disaster relief charter vessel loan regulations; Aug. p. 95.
- Earthquake:
 - commercial fishing industry still operational in spite of; July p. 6.
 - damage to _____ fishery industry; June p. 8.
 - Japanese Fisheries Association contributes money to victims of; June p. 48.
 - Office of Emergency Planning declares _____ major disaster area; July p. 87.
- Ferry system, ARA authorizes study of the impact of the new; Jan. p. 74.
- Fisheries regulations, commercial, major changes for 1964; Feb. p. 7.
- Fishery explorations and gear research trawling experiments yield heavy shrimp catches; May p. 13.
- Fishery loan, disaster, application filing extended to Oct. 31, 1964, for; Nov. p. 17.
- Fishery products from _____, more, used in U. S. in 1963; May p. 34.
- Fish-meal fishery, Japanese activity off _____ during June in; Sept. p. 11.
- Foreign fishing activity; Mar. p. 8, Apr. p. 9, May p. 12, June p. 9, Aug. p. 10, Oct. p. 12, Nov. p. 15, Dec. p. 22.
- Fur seals:
 - prices for skins at fall 1964 auction; Dec. p. 40.
 - prices for skins at spring 1964 auction; June p. 15.

ALASKA (cont.)

- Gulf of _____:
foreign fishing at seasonal activity; Feb. p. 10, Mar. p. 8.
gear marking experiments by M/V "John R. Manning" in Kodiak Island vicinity; Dec. p. 23.
Japanese exploratory fishing activities; July p. 8, Sept. p. 11.
- Halibut:
landings at Ketchikan, first seasonal; July p. 8.
prices, ex-vessel, in Ketchikan rise in June; Sept. p. 12.
quality evaluation of ex-vessel landings continued; Sept. p. 24.
- Herring:
bait fishing at Ketchikan in Jan. 1964; Apr. p. 9.
catch moderate in southeast _____; Dec. p. 24.
growth and mortality rates analyzed; Apr. p. 10.
reduction during August 1964; Nov. p. 17.
roe-on-kelp harvest ends in April; July p. 8.
roe readied for shipment to Japan; Aug. p. 13.
Income tax reduction claims, Alaskans receive time extension for; Aug. p. 97.
- Japan buys salmon from _____; Oct. p. 67.
- Japanese fishing activity off _____ in July 1964; Oct. p. 12.
- Japanese shrimp fishery off _____ during June; Sept. p. 10.
- Juneau area, shrimp and crab processing started by new corporation in; Mar. p. 8.
- Karluk River, red salmon spawning verified for; Feb. p. 11.
- Kodiak Island area tagged king crab retains tag over six years; June p. 9.
- Landings, fishery, 1963; Apr. p. 9.
- Loan funds received by _____ firm from SBA instead of ARA; Mar. p. 76.
- Loans, fishery:
filing of applications for disaster ended September 30, 1964; Oct. p. 13.
Kodiak Interior Department emergency office opened; June p. 63.
low interest rate type available to _____ fishing industry; Aug. p. 13.
- Medical help, emergency, instructions for fishermen; Nov. p. 58.
- Rail-barge services expanding; Feb. p. 52, Mar. p. 9.
- Salmon:
eggs processed as red caviar for Japan; Oct. p. 13.
harvest not jeopardized by earthquake damage; June p. 8.
Japanese handling and processing aboard vessels of fish purchased from _____; Nov. p. 15.
Japanese purchases from _____; Oct. p. 68.
Karluk Lake escapement through Aug. 1964; Nov. p. 19.
king fishing in 1964, Cook Inlet closed to; Feb. p. 10.
landings, 1964; Dec. p. 63.
pack in 1964; Dec. p. 23.
- pink:
egg deposition success varies in Sashin Creek; Mar. p. 9.
egg survival rate considered good off southeast coast; June p. 10.
Kodiak has excellent season; Nov. p. 16.
southeast coast, large concentration indicated off; Sept. p. 12.

ALASKA

- Salmon:
pink:
transplanting of live fish at Little Port Walter; Nov. p. 20.
workshop meets in Juneau; Apr. p. 9.
- red:
smolt outmigration at Naknek Lake system; Nov. p. 19.
spawning population, large, discovered in Naknek river; Feb. p. 11.
serological sampling at Copper River; Nov. p. 19.
southeastern _____, purse-seine season opened July 1, 1964 in; Sept. p. 11.
waste utilization; Oct. p. 13.
- Scallop exploratory fishing by M/V "Paragon"; Nov. p. 19.
- Sealskins, proposals for processing, promoting, and selling _____; June p. 63.
- Seismic exploration agreement completed; July p. 8.
- Shrimp:
explorations off _____ by M/V "Paragon"; Nov. p. 17.
Japanese fishery north of Pribilof Islands; July p. 8.
pots in vertical string fish better with black mesh; Feb. p. 11.
Soviet vessels fish in Bering Sea; July p. 7.
Sitka, marine plants and animals in shallow coastal waters near; May p. 12.
- Small Business Administration loans to _____ firms in earthquake disaster area; Aug. p. 97.
- Southeastern _____ gear count for registered fishing vessels; Aug. p. 13.
- University of _____, fishery extension course specialist appointed to faculty of; Feb. p. 10.
- U. S. S. R.:
crab fleet off Kodiak; July p. 7.
fishing activity off _____ in July 1964; Oct. p. 12.
fishing fleet off Yakutat; July p. 7.
Gulf of _____, trawlers return to; May p. 12.
Portlock Bank region, Soviets continue to fish in; July p. 7.
trawl fishery off _____ during June; Sept. p. 10.
- Vessels, six, being built for _____ fishermen; June p. 9.
- Washington-_____ rail-barge service expanded; Feb. p. 52.
- Water transportation rates, Federal Maritime Commission order stayed for lower; Sept. p. 104.
- Whaling operations, Japanese, off _____ during June; Sept. p. 11.
- ALASKA FISHERIES EXPLORATION AND GEAR RESEARCH
Chartered exploratory vessel "Paragon" begins activities; Aug. p. 14.
Charter of vessel "Paragon" terminated; Dec. p. 24.
- Crab, king:
tagging in Portlock Bank area; Sept. p. 13.
underwater television used for locating (M/V "Paragon" cruise 64-1); Sept. p. 12.
- Scallop explorations in Gulf of Alaska, 1963; Mar. p. 1.
- Shellfish cruise by chartered vessel "Paragon" started; Sept. p. 13.
- Shrimp and scallop explorations by M/V "Paragon"; Oct. p. 13.
- Shrimp explorations off Alaska (M/V "Paragon" cruise 64-2); Nov. p. 17.

ALASKA FISHERY INVESTIGATIONS

- Crab tagging program as of Aug. 1964; Nov. p. 20.
 Salmon:
 chum spawning in Olsen Creek intertidal zone;
 Nov. p. 20.
 juveniles, studies on migrations of; Nov. p. 20.
 pink:
 adult run, new, transported into Sashin Creek;
 Dec. p. 24.
 nursery areas discovered by M/V "Heron"; Oct.
 p. 14.
 Olson Creek run as of Aug. 1964; Nov. p. 20.
 transplanting of live fish at Little Port Walter;
 Nov. p. 20.
 sockeye or red fry availability low during summer;
 Dec. p. 24.

ALASKA, GULF OF

- Japan plans for more trawlers to fish in ____;
 Dec. p. 100.
 Scallop explorations in ____, 1963; Mar. p. 1.
 U.S.S.R. fishing activities, Mar. 1964; May p. 76.

ALASKA STEAMSHIP COMPANY

- Federal Maritime Commission order to ____ to
 reduce Alaska rates stayed by U.S. Court of
 Appeals; Sept. p. 104.

ALEUTIAN ISLANDS

- Bottomfish, Japanese long-line fleets plan to fish
 south of western ____ in fall 1964 for; May p. 60.
 Japanese study program for experimental long-
 lining along western ____; May p. 60.
 Japanese whaling fleet operating off ____ during
 June; Sept. p. 11.
 Salmon, North Pacific, migration study off the
 western ____; Oct. p. 36.

ALEWIFE

- Lake Michigan seasonal distribution and abundance
 studies; June p. 15, Aug. pp. 23, 25, Nov. p. 33,
 Dec. p. 40.

AMERICAN BAR ASSOCIATION

- Law of the Sea Conference, Third International,
 recommended by ____ group; Dec. p. 39.

AMERICAN FISHERIES ADVISORY COMMITTEE

- Fisheries problems discussed at annual meeting;
 Mar. p. 9, Nov. p. 21.
 Recommendations made at meeting in New England;
 Dec. p. 25.

AMERICAN SAMOA

- Japanese fishing firm to charge handling fee for
 deliveries to ____; Aug. p. 14.
 Japan External Trade Promotion Organization
 assigns agent in ____; Dec. p. 103.
 Tuna:
 fleet as of Aug. 31, 1964; Dec. p. 25.
 fleet based in ____ dwindling; Nov. p. 21.
 Japan:
 base at ____, fishery official's views on; July
 p. 58.
 Government issues special permit to land Fiji
 Islands tuna at ____; May p. 13.
 price negotiations with U.S. packers; July p. 57.
 vessels based at ____ in difficulty; Jan. p. 56.
 prices, ex-vessel, in ____; Aug. p. 14.

ANCHOVIES

- California:
 industrial fishery, hearings on experimental;
 June p. 12.
 industrial fishery, request denied for; July p. 9.
 Chile:
 fluctuations, sharp, in ____ landings in 1964;
 Oct. p. 53.
 northern coast, anchoveta reappear off; Apr. p. 52.
 Peruvian anchoveta catch, record, forecast in 1964;
 Apr. p. 70.
 South Africa Republic:
 catches, remarkably good, made by fishing vessel;
 Aug. p. 84.
 fishery may develop rapidly; Nov. p. 110.
 resources off coast explored; Sept. p. 92.

ANESTHETIC

- Shellfish ____ may aid biological research; Aug.
 p. 37.

ANGOLA

- Cannery, fish, planned for ____ by South African
 interests; Mar. p. 40.
 Fisheries trends, Nov. 1963; Jan. p. 42.
 Fish meal production and exports; May. p. 40, Oct.
 p. 44.
 Foreign trade in fishery products, 1962; Jan. p. 42.
 Japan plans fish-freezing operations off ____; Mar.
 p. 61.
 Landings, fishery, sharply lower first half of 1963;
 Jan. p. 42.

ANIMAL FEED

- Fishery byproducts in ____, observations and
 views in Texas on use of; Aug. p. 28.
 International Atomic Energy Agency, radiation con-
 trol of harmful organisms in food and ____ re-
 commended by; Sept. p. 53.

ANTARCTIC

- Norwegian sealing expedition to ____; Sept. p. 88.
 Whaling:
 marine oil production, 1962/63 and 1963/64 sea-
 son; Oct. p. 49.
 outlook for 1963/64 ____ season; Apr. p. 49.
 Soviets propose conference for revision of ____
 catch allocation; Nov. p. 72.

ANTIBIOTICS

- Oysters treated with ____ improved cultured pearl
 quality; Sept. p. 81.

ANTIDUMPING ACT

- Public hearing held on ____ regulations; Feb.
 p. 91.

AQUARIUM

- National Fisheries Center:
 architects selected to draw plans for ____; May
 p. 27.
 design program being prepared for ____; July
 p. 21.
 dolphins, trained, will be featured at Washington,
 D.C. ____; Apr. p. 22.
 plans, new, for ____ approved; Dec. p. 48.
 research facilities of ____ to be extensive; July
 p. 21.
 variety of aquatic specimens to be donated to ____;
 May p. 26.

AQUATIC WEEDS

- Carp, grass, from Malaysia to be used to fight water vegetation; Dec. p. 26.
Manatees to control _____, use of; Oct. p. 107, Dec. p. 106.

ARABIAN SEA

- Fisheries development in _____ proposed by FAO; Mar. p. 37.
Trawling results of the R/V "Anton Bruun" in the _____; Nov. Supplement p. 27.

AREA REDEVELOPMENT ADMINISTRATION (also see COMMERCE, DEPARTMENT OF)

- Alaska:
bottomfish industry potential to be studied under technical assistance project; May p. 78.
cold-storage firm handling fishery products, _____ industrial loan to; May p. 78.
ferry system, study authorized of the impact of the new; Jan. p. 74.
firm to receive loan funds from SBA instead of _____; Mar. p. 76.
technical assistance project to aid earthquake-damaged areas; Nov. p. 117.
Lake Superior commercial fishing industry to be aided by technical assistance project; May p. 78.
Maryland:
clam research project to be continued; Oct. p. 83.
pet food firm, _____ industrial loan approved to; July p. 81.
North Carolina, fisheries potential survey in; July p. 81.
Puerto Rico tuna firm, industrial loan to; Oct. p. 82.
Rockland Harbor, Maine, technical assistance project to study proposed deep-water port facility at; Oct. p. 82.
Willapa Bay, Washington, oyster industry study approved; Feb. p. 88.
Wisconsin fish meal and oil plant, industrial loan to help establish new; Oct. p. 82.

ARGENTINA

- Atlantic fishing grounds off _____ worked by Italian freezer-trawlers; May. p. 46.
Fisheries development plans; July p. 45.
Fisheries trends, 1963; July p. 45.
Fisheries trends in 1963 and 1964; Nov. p. 72.
Fish meal:
exports, Jan.-Nov. 1963; July p. 45.
production and exports, 1962-1963; Aug. p. 54.
production estimates revised; Feb. p. 66.
production, 1963; July p. 45.
Fish oil production and exports, 1962-1963; Aug. p. 54.
Imports and exports of fishery products and by-products, 1963; Nov. p. 73.
Japanese distant-water trawl fisheries, future of; Mar. p. 61.
Landings, fisheries, 1963; July p. 45.

ARKANSAS

- Rice-farm fish ponds, labor-saving gear tested in; Aug. p. 21.

ASIA

- Estuarine areas of _____, Aquatic Research Institute established at Stockton, Calif., to study; Feb. p. 40.

ATLANTIC COAST

- Salmon, pink, from Canadian Pacific transplanted to _____; Mar. p. 44.
Tuna migrations off _____ studied by Canadian scientists; Mar. p. 45.

ATLANTIC OCEAN

- Bottomfish resources in _____ to be surveyed by Japanese; Oct. p. 70.
Equatorial _____, Institute of Marine Science research vessel Returns from investigations in; Sept. p. 34.
Japanese firm plans trawling and fish meal operations in _____; Jan. p. 59.
Japan's _____ trawl fleet; July p. 63.
Netherlands' views on Northeast Atlantic and European fishery policies; Feb. p. 76.
Northeast Fisheries Commission, second meeting held at the Hague; Aug. p. 52.
Northwest:
foreign fishing activities, Oct. 1964; Dec. p. 49.
Japanese experimental trawl operations; Oct. p. 70.
Polish trawling operations; Mar. p. 66.
Plankton studies give clues to Indian Ocean- _____ Zoogeographical relations; May p. 14.
Rumania extends fishing operations into western and equatorial _____; Mar. p. 67.
Swordfish to be fished by Japanese in Northwest _____; Oct. p. 70.
Trawl fishery in _____, Japanese; Feb. p. 74, Nov. p. 94.
Tropical _____, Gulf of Guinea investigations by research vessel "Geronimo" (cruise 4); Oct. p. 31.
Tuna, albacore:
Japanese catch improving; Oct. p. 64.
Japanese fishery and market trends; Nov. p. 89, Dec. p. 98.
Tuna:
Japanese fishing trends; Aug. p. 70.
Japanese government to explore _____ for; Oct. p. 65.
Japanese views on the conservation proposals advanced at FAO meeting on; Jan. p. 56.
mothership in _____, Japanese company applies to operate; Jan. p. 55.
resources, working party meets in Rome on; Jan. p. 38.
Tuna, swordfish, and marlin larval specimens collected in the tropical _____; Nov. p. 48.
U.S.S.R.:
electronic fishing gear, conducts experiments in _____ with; July p. 76.
fishing fleets in _____; May p. 75.
Whaling:
Japanese establish operations in south _____; Mar. p. 62.

ATLANTIC FISHERY INVESTIGATIONS

- Scientific Exploration of the Atlantic Shelf (SEAS), Committee for the; Jan. p. 24.

ATLANTIC FISHERIES TECHNOLOGICAL CONFERENCE

- Meeting on Oct. 11-14, 1964; Oct. p. 14.

ATOMIC ENERGY COMMISSION

- Radiation preservation:
fishery products irradiator at Gloucester (Mass.); Oct. p. 35, Dec. p. 57.

ATOMIC ENERGY COMMISSION (cont.)

Radiation preservation (cont.):
portable irradiator by _____ planned for use
aboard M/V "Delaware"; Nov. p. 54.

AUSTRALIA

Abalone industry being developed; Dec. p. 82.
Consumption, per capita, of fishery products is up;
Sept. p. 58.
Exports, fishery, increase; Oct. p. 51.
Gear, fishing, Japanese take measures to stop
damage to _____; Jan. p. 43.
Japanese distant-water trawl fisheries, future of;
Mar. p. 61.
Landings, fishery, fiscal year 1962/63; Mar. p. 41,
Sept. p. 57.
Landings of fish, direct, by foreign vessels re-
stricted by _____; July p. 46.
Licensing and import regulations affecting fisher-
ies; July p. 45.
Lobsters, spiny:
air shipment of anesthetized live ones considered
by exporters; May p. 46.
tagging project; July p. 46.
Oysters, standards proposed for; Nov. p. 79.
Pearl-culture industry developing; Dec. p. 158.
Pet food to the U. S., _____ begins exporting; Nov.
p. 79.
Ports, fishing, New South Wales plans chain of
safe; Oct. p. 51.
Salmon, canned, sold to _____ by Japan; June p. 44.
Scallop:
bed, new, shows promise; Oct. p. 50.
catch on new grounds off Victoria; Oct. p. 50.
exports, increase planned in; Nov. p. 76.
fishery expands; Nov. p. 77.
Tasmania, season extended in; Sept. p. 58.
Shrimp:
common names; June p. 36.
farming joint ventures with Japanese considered;
Nov. p. 76.
fishery good in 1964; Nov. p. 76.
imports, duty on; Sept. p. 57.
Trout:
farm planned in Tasmania; July p. 46.
rainbow eggs from _____ help expand production
at Idaho fish farm; Oct. p. 38.
Tuna:
catch could top fish catch; Sept. p. 56.
facilities expanded to handle increased catch;
Nov. p. 75.
fishery has good season; Sept. p. 56.
fishery trends, 1963-64; June p. 36.
long-lining, modified, in inshore waters; Aug. p. 54.
long-lining survey; Apr. p. 50.

AUTHORS AND TITLES

ALVERSON, DAYTON L. (and Edward A. Schaefer):
Second World Fishing Gear Congress; May p. 1.
AMBROSE, MARY E. (and Preston Smith, Jr. and
George M. Knobl, Jr.):
Improved Rapid Method for Determining Total
Lipids in Fish Meal; July p. 1.
BAKKALA, RICHARD:
Abernathy Spawning Channel Proves Effective
for Reproduction of Chum Salmon; Dec. p. 20.
BOUCHARD, LOYAL G.:
Overall View of Soviet Fisheries in 1963, with
Emphasis on Activities off United States Coasts;
Nov. Supplement, p. 15.

AUTHORS AND TITLES

BROOKER, J. R.:
Weights and Measures Activities in the USDI
Fishery Products Standards and Inspection Pro-
grams; Oct. p. 8.
BUTLER, CHARLES:
Progress Report on the Development of Interna-
tional Food Standards, A; Sept. p. 1.
CARR, IRA A.:
Lake Erie Fisheries Explorations, May-November
1960; Apr. p. 1.
CASTAGNA, MICHAEL:
Design and Operation of a Tray Rack for the Study
of Oysters; Dec. p. 21.
DEADY, EMMETT F. (and Charles F. Lee and
George M. Knobl, Jr.):
Mechanizing the Blue Crab Industry. Part III -
Strengthening the Industry's Economic Position;
Jan. p. 1.
DOW, ROBERT L.:
Changes in Abundance of the Marine Worm, *Gly-
cera dibranchiata*, Associated with Seawater
Temperature Fluctuations; Aug. p. 7.
Supply, Sustained Yield, and Management of the
Maine Lobster Resource; Nov. Supplement, p. 19.
FLITTNER, GLENN A.:
Review of the Movement of Albacore Tuna Off the
Pacific Coast in 1963; Dec. p. 13.
ISAACSON, PETER A.:
Age Composition of the Commercial California
Bluefin Tuna Catch in 1963; Nov. p. 12.
KNOBL, GEORGE M., JR. (and Charles F. Lee and
Emmett F. Deady):
Mechanizing the Blue Crab Industry. Part III -
Strengthening the Industry's Economic Position;
Jan. p. 1.
(and Preston Smith, Jr. and Mary E. Ambrose):
Improved Rapid Method for Determining Total
Lipids in Fish Meal; July p. 1.
KRAVANJA, MILAN A.:
Soviet Far East Fisheries Expansion; Nov. Sup-
plement, p. 1.
LARKINS, HERBERT A.:
Comparison of Salmon Catches in Monofilament
and Multifilament Gill Nets--Part II; Oct. p. 1.
LASSITER, ROY L., JR.:
Utilization of U. S. Otter-Trawl Shrimp Vessels
in the Gulf of Mexico, 1959-1961; Feb. p. 1.
LEE, CHARLES F. (and F. Bruce Sanford):
Crab Industry of Chesapeake Bay and the South--
An Industry in Transition; Dec. p. 1.
(and George M. Knobl, Jr. and Emmett F.
Deady):
Mechanizing the Blue Crab Industry. Part III -
Strengthening the Industry's Economic Position;
Jan. p. 1.
(and Max Patashnik, Harry L. Seagran, and
F. Bruce Sanford):
Preliminary Report on Experimental Smoking of
Chub (*Leucichthys* sp.); Nov. p. 1.
PATASHNIK, MAX (and Charles F. Lee, Harry L.
Seagran, and F. Bruce Sanford):
Preliminary Report on Experimental Smoking of
Chub (*Leucichthys* sp.); Nov. p. 1.
PRUTER, A. T.:
Trawling Results of the R/V "Anton Bruun" in the
Bay of Bengal and Arabian Sea; Nov. Supplement
p. 27.
RATHJEN, WARREN F. (and Joaquim B. Rivers):
Gulf of Alaska Scallop Explorations--1963; Mar. p. 1.

AUTHORS AND TITLES (cont.)

- RIVERS, JOAQUIM B. (and Warren F. Rathjen):
Gulf of Alaska Scallop Explorations--1963; Mar.
p. 1.
- RONHOLT, LAEL L.:
Shrimp Explorations Off Vancouver Island
(British Columbia) by M/V "John N. Cobb,"
October-November 1962; June p. 1.
- SANFORD, F. BRUCE (and Charles F. Lee):
Crab Industry of Chesapeake Bay and the South--
An Industry in Transition; Dec. p. 1.
(and Max Patashnik, Charles F. Lee, and
Harry L. Seagran):
Preliminary Report on Experimental Smoking
of Chub (*Leucichthys* sp.); Nov. p. 1.
- SCHAEFERS, EDWARD A. (and Dayton L. Alverson):
Second World Fishing Gear Congress; May p. 1.
- SEAGRAN, HARRY L. (and Max Patashnik, Charles
F. Lee, and F. Bruce Sanford):
Preliminary Report on Experimental Smoking
of Chub (*Leucichthys* sp.); Nov. p. 1.
- SMITH, PRESTON, JR. (and Mary E. Ambrose
and George M. Knobl, Jr.):
Improved Rapid Method for Determining Total
Lipids in Fish Meal; July p. 1.
- WILLIAMS, FRANK:
Guinean Trawling Survey, The; Aug. p. 1.
- BAIT**
Alaska, salmon heads and tails used for halibut
; Oct. p. 13.
- Herring:
Alaska:
fishing for _____ at Ketchikan in Jan. 1964; Apr.
p. 9.
winter fishery begins near Ketchikan; Mar. p. 8.
- BARBADOS**
Shrimp fishery promising, outlook for; July p. 47.
- BARNACLE**
Rapid spread of _____ investigated; July p. IV.
- BATHYKMOGRAPH**
Fishing net speed and depth measured by _____;
Feb. p. 32.
- BAY OF BENGAL**
Fisheries development in _____ proposed by FAO;
Mar. p. 37.
Trawling results of the R/V "Anton Bruun" in the
_____; Nov. Supplement p. 27.
- BEAUDETTE FOUNDATION FOR BIOLOGICAL
RESEARCH**
Vessel, oceanographic, for _____; Apr. p. 27.
- BELGIUM**
Tariff quotas on some fishery products granted
Belgium-Luxembourg Union by European Econom-
ic Community; Apr. p. 40.
Polish fisheries freezing and transshipment base
in Ostend; June pp. 55, 56.
Trout farm in Ireland operated by firm based in
Antwerp, _____; Apr. p. 59.
- BELGIUM-LUXEMBOURG**
Import quota and duty for fresh and frozen cooked
crab and shrimp, Jan. 1, 1964-Mar. 31, 1965;
May p. 47.
- BERING SEA**
Bottomfish:
Japan:
catch, 1964; Dec. p. 100.
Eastern _____ fishing fleets for 1964 season;
May p. 59.
motherhood operations; July p. 63, Sept. p. 76,
Nov. p. 94.
motherhoods, six, departed in April for Eastern
_____ fishing grounds; May p. 58.
vessel operations in eastern _____ approved
for 1964; Apr. p. 61.
Crab, king, Japan issues licenses for two mother-
ships to operate in 1964 in eastern _____ area;
May p. 59.
Eastern _____:
halibut fishery:
discussed at special meeting of International
Pacific Halibut Commission; July p. 42.
Japanese long-line fishing abandoned; Sept. p. 11.
Japan establishes motherhood bottomfish areas
for 1964 in; Mar. p. 58.
Soviet winter trawling fleets move into area in
mid-December; Mar. p. 8.
- Fish meal:
Japanese firm plans operation in eastern _____;
Mar. p. 60.
Japanese operations; June p. 48.
Foreign fishing activities; Feb. p. 10, Apr. p. 9,
Aug. pp. 10, 11.
Halibut, Japan licenses vessels for Triangle Area
of _____; May p. 58.
- Japan:
long-line fishery in _____ moves nearer Pribilof
Islands; July p. 8.
shrimp factoryship also fishes for herring and
Pacific ocean perch; June p. 9.
stern trawling operations; May p. 60, Dec. p. 101.
vessel departures for; July p. 63.
Shrimp fishery in Eastern _____, Japanese mother-
ship; July p. 63, Sept. p. 76.
Trawler, stern, Japanese, completed for _____
operations; July p. 65.
U.S.S.R.:
fishing activities; May p. 76, June p. 9.
fishing fleets in _____; May p. 75.
flounder activities in _____; July p. 7.
- BILLFISH**
Research cruise by University of Miami vessel
"John Elliott Pillsbury" to study _____; Sept. p. 28.
- BLOODWORMS**
Maine production of _____; Aug. p. 7.
- BOTTOMFISH**
Alaska _____ industry potential to be studied under
ARA technical assistance project; May p. 78.
Atlantic Ocean:
Continental Shelf, new instrument effective aid in
_____ studies of; Sept. p. 35.
explorations off South Carolina, Georgia, and
northern Florida continued; Aug. p. 38.
- Bering Sea, eastern:
fishing areas set by Japan for 1964; Mar. p. 58.
Japanese catch, 1964; Dec. p. 100.
- California:
growth studies of Dover sole and _____ conducted
in Monterey Bay; Feb. p. 12.
southern coastal waters, _____ study in; Mar. p. 13.

BOTTOMFISH (cont.)

- Ecuador, industry development; Sept. p. 66.
 Gulf of Guinea fishing poor, Japanese report; June p. 45.
 Gulf of Mexico:
 commercial catch sampling of _____, January-March 1964; July p. 18.
 distribution and abundance of _____ in western Gulf; Mar. p. 20, July p. 18.
 life histories of central Gulf _____; Mar. p. 20, July p. 18.
 Japan:
 Atlantic resources to be surveyed; Oct. p. 70.
 Bering Sea, Eastern:
 fishing fleets for 1964 announced; May p. 59.
 fishing grounds, six motherships departed in April for; May p. 58.
 mothership operations; July p. 63, Sept. p. 76, Nov. p. 94.
 vessel operations for 1964 approved; Apr. p. 61.
 freezer ship departs for Las Palmas to process _____; July p. 64.
 long-line fishery planned off New Zealand; Mar. p. 63.
 New Zealand:
 fishing off; May p. 60.
 licensing of operations off; Nov. p. 95.
 longer trip doubles catch for trawlers in waters off; Nov. p. 95.
 North Pacific, status of mothership fisheries in; Oct. p. 68.
 Western Aleutian Islands in fall 1964, long-line fleets plan to fish south of; May p. 60.
 New England landings in 1963 and forecast for 1964; Feb. p. 36.
 North Pacific survey off southern Washington by M/V "John N. Cobb;" July p. 23.

BOTULISM

- Chub, smoked, status report on processing studies by Bureau of Commercial Fisheries as result of _____ outbreak; Feb. p. 44.
 Interagency Botulism Research Coordinating Committee coordinates research on _____; Sept. p. 13.
 Smoking, experimental, of chub to determine proper processing method to prevent _____; Nov. p. 1.

BOXING-FISH-AT-SEA

- British trawler, tests on _____ carried out by; Mar. p. 73.

BRAZIL

- Lobster, spiny, landings and export trends; Feb. p. 67.
 Whaling:
 Japanese-Brazilian joint enterprise to continue operations; June p. 37.
 Japan:
 firms study consolidation of operations in _____; Apr. p. 62.
 operation in _____; May p. 62.
 operations off _____; Oct. p. 52.

BREADED SEAFOOD

- Fair Labor Standards Act, U. S. Court of Appeals ruling upholds _____ processor's overtime exemption under; Nov. p. 119.

BRISTOL BAY

- Alaska's _____ area office moved to town of King Salmon; Jan. p. 8.
 Crab, king:
 Japan:
 factoryships begin early fishing season in _____; June p. 9.
 fishing improves; Aug. p. 72.
 fleet in outer _____; July p. 7.
 operations in _____; Nov. p. 94.
 Salmon, red, forecast of 1964 run in _____; May p. 12.

BRITISH GUIANA

- Shrimp industry trends for 1963 and outlook for 1964; Aug. p. 55.

BRITISH WEST INDIES

- Barbados shrimp fishery promising, outlook for; July p. 47.

BULGARIA

- Fishery products, new Ethiopian-_____ company in Ethiopia will handle; July p. 53.
 Fishing fleet, plans for; Apr. p. 51.
 High-seas fisheries development aided by Soviets; Apr. p. 51.

BUREAU OF COMMERCIAL FISHERIES (see COMMERCIAL FISHERIES, BUREAU OF)

BUREAU OF CUSTOMS (see CUSTOMS, BUREAU OF)

BUREAU OF SPORT FISHERIES AND WILDLIFE (see SPORT FISHERIES AND WILDLIFE, BUREAU OF)

CALIFORNIA

- Abalone observations and growth studies (M/V "Nautilus" and M/V "Mollusk" cruises 64-N-5A and 64-M-1A); Nov. p. 23.
 Anchovies:
 industrial fishery:
 hearings on experimental; June p. 12.
 request denied for; July p. 9.
 Aquatic Research Institute established at Stockton to study estuarine areas of Asia and _____; Feb. p. 40.
 Bottomfish:
 Monterey Bay growth studies (M/V "Nautilus" cruise 63-N-5a-b _____); Feb. p. 12.
 southern coastal waters study (M/V "Alaska" cruise 63-A-9); Mar. p. 13.
 Bottom-trawling explorations off southern _____ (M/V "N. B. Scofield" cruise 64-S-1); June p. 10.
 Crab, Dungeness:
 abundance and condition surveyed prior to open season (M/V "N. B. Scofield" cruise 63-S-7- _____); Jan. p. 8.
 survey in northern coastal waters (M/V "N. B. Scofield" cruise 63-S-8); Mar. p. 13.
 Earthquake, Del Norte County in _____ declared major disaster area by Office of Emergency Planning because of; July p. 87.
 Fishermen's income, 1962; Feb. p. 11.
 Hake, adult, distribution and abundance off southern _____ and northern Mexico studied by M/V "John N. Cobb;" June p. 21.
 Hatchery fish losses attributed to food problem; Dec. p. 30.
 Larval fish biology conference, first, held in _____; Jan. p. 10.

CALIFORNIA (cont.)

- Medical help, emergency, instructions for fishermen; Nov. p. 58.
- Pelagic fish population survey continued: (airplane spotting flights); Feb. p. 12, Mar. p. 12, Apr. p. 12, June pp. 11, 12, Sept. p. 14, Oct. pp. 16, 17, Dec. p. 29.
- (M/V "Alaska" cruises); Mar. p. 10, Oct. p. 15, Nov. p. 24, Dec. p. 28.
- Petrale sole migration studies and tagging (M/V "N. B. Scofield" cruise 64-S-4-bottomfish); Dec. p. 26.
- Sacramento River, antipollution dam will improve fish runs in; Apr. p. 29.
- Salmon:
- cannery plant in Sacramento designated national historic landmark, site of first Pacific Coast; June p. 25.
 - king, growth and life history investigated (M/V "Nautilus" cruise 63-N-2g through 2j); Apr. p. 12.
- San Francisco Bay investigations continued (M/V "Nautilus" cruise 63-N3i-k); Apr. p. 11, Nov. p. 21.
- Sea Otter:
- population determined by Department of Fish and Game census; Aug. p. 15.
 - population survey (airplane spotting flights); Apr. p. 12, May p. 13.
- Shellfish, North Pacific, industry affected by recent disasters; Oct. p. 37.
- Shrimp:
- distribution survey continued (M/V "N. B. Scofield" cruises); Mar. p. 14, Oct. p. 18.
 - quota, commercial, off Crescent City-Eureka area increased; Sept. p. 14.
 - resources off _____ coast surveyed (M/V "Alaska" cruise 64-A-1-Frawn); Apr. p. 10.
 - resources survey in _____ northern waters (M/V "Joseph Alioto" cruise 64-C-1-Shrimp); Oct. p. 20.
- Sole, English, growth studies in Monterey Bay (M/V "Nautilus" cruises 64-N-1a-b-c); Oct. p. 14.
- Tuna:
- albacore migration studies and tagging (M/V "N. B. Scofield" cruise 64-S-3-Albacore); Nov. p. 23.
- bluefin:
- age composition of the commercial catch in 1963; Nov. p. 12.
 - age-growth studies of fish landed in _____; Jan. p. 31, Dec. p. 61.
 - landings to Oct. 17, 1964; Dec. p. 63.
- Whale marking project off southern _____; June p. 33.

CAMBODIA

- Fisheries, commercial, production, 1960-1963; July p. 47.

CAMEROON

- Tuna vessels, Chinese, to train _____ fishermen; July p. 48.

CAN(S)

- Metal food container as the regulatory official sees it; June pp. 88-89.
- Sardine industry, Maine, new easy-open aluminum _____ developed for; Aug. p. 15.
- Shipments for fishery products; Jan. p. 9, July pp. 9-10, Aug. p. 15, Sept. p. 14, Oct. p. 21, Nov. p. 25.

CANADA

- Biological research highlights; Dec. p. 85.
- "Bluenose"--Canada's most famous sailing vessel; Oct. outside back cover.
- British Columbia:
- Federal-Provincial fisheries committee established; Nov. p. 79.
 - salmon, canned, industry asks for tariff reduction at 1964 GATT negotiations; July p. 48.
- Cod population in Northwest Atlantic studied; Mar. p. 43.
- Denmark appoints new Fisheries Attache for U. S. and _____; Nov. p. 83.
- Electronic fishery research aids, new, developed; Mar. p. 49.
- Federal-Provincial Atlantic Fisheries Committee meeting in Ottawa; Nov. p. 79.
- Federal-Provincial conference on fisheries development; Mar. p. 42.
- Fillets, fish, improvement in texture studied; Mar. p. 48.
- Fisheries Council of _____ research highlights and results discussed at 19th annual meeting; Dec. p. 85.
- Fisheries development program proposed; Jan. p. 44.
- Fishery resources of Far North surveyed; Mar. p. 47.
- Fishing limits:
- extension does not apply to U. S. fishing vessels; Oct. p. 52.
 - Fisheries Minister comments on 12-mile; May p. 47.
 - Japanese-Canadian talks planned on; July p. 67.
- Fish meal experimentally stored in 2,000-pound containers; Mar. p. 50.
- Fish-potato mixture, process for dehydrating developed; Jan. p. 46.
- Fish processing equipment, trade mission explores Latin American market for; May p. 47.
- Fish protein concentrate, ways studied of producing; Mar. p. 50.
- Fresh-water fisheries, new committee formed for development of; July p. 49.
- Great Lakes commercial fishery landings, 1963; Oct. p. 26.
- Groundfish resources in North Pacific studied by scientists; Mar. p. 46.
- Halibut catch in Bering Sea Area 3B North Triangle, March 28, 1964; May p. 43.
- Herring:
- British Columbia landings and products, 1963/64; June p. 37.
 - seiners, Bay of Fundy sections reopened to; Dec. p. 88.
- Industry communication of research results, proposals for; Dec. p. 88.
- International Seaweed Symposium's fifth meeting to be held August 25-28, 1965, in Halifax; May p. 44.
- Japanese-Canadian, joint, fishery base proposed; May p. 47, Aug. p. 72.
- Japanese fisheries mission scheduled to visit U. S. and _____; June p. 48.
- Landings, commercial, 1962; Mar. p. 41.
- Lobster industry in North Atlantic; Mar. p. 43.
- Malaysian cold-storage facilities, contributions by _____ through Colombo Plan to help establish; Feb. p. 76.
- Ministerial conference with Japan convenes in Tokyo Sept. 4, 1964; Oct. p. 72.

CANADA (cont.)

New Brunswick:

Fisheries Department established; June p. 37.
fisheries trends, 1963; June p. 37.
school of fisheries; June p. 37.
shore facilities; June p. 37.

Newfoundland:

fishermen, new shore facilities to benefit; Jan. p. 45.
swordfish long-lining experiments successful; Jan. p. 45.

North American Fisheries Conference of Commercial Fishing Industries, participation by _____ scheduled for; Dec. p. 70.

Nova Scotia:

fishing banks, new chart of; Nov. p. 79.
fish processing plant, new, opens; Sept. p. 58.
swordfish landings in 1963 boosted by long-lining; Jan. p. 44.

Oceanographic research vessel, new, commissioned for _____; Aug. p. 58.

Oceanography research highlights; Dec. p. 85.

Oils, marine:

exports, 1961-1963; Aug. p. 57.
foreign trade, Jan.-July 1964; Dec. p. 84.
imports, 1961-1963; Aug. p. 57.
industry trends, Jan.-July 1964; Dec. p. 84.
production, Jan.-July 1964; Dec. p. 84.
production, utilization, and foreign trade, 1961-1963; Aug. p. 56.
use in margarine and shortening, 1961-1963; Aug. p. 56.

Oyster, shucked, production in British Columbia, 1963; Apr. p. 52.

Pacific coast harbor seals, bounty payments discontinued by _____ on; Sept. p. 59.

Processing plants, new fish, for Maritime Provinces; Jan. p. 45.

Quebec's salmon and trout restocking program; Dec. p. 88.

Refrigeration aboard vessels, developments in; Mar. p. 48.

Research station, new, on Lake Huron; Aug. p. 58.

Salmon:

Atlantic fishery; Dec. p. 82.
canned:
 pack in British Columbia lower in 1963; Jan. p. 43.
 pink market trends in _____, Japanese view on; July p. 62.
East Coast escapement improved in 1963; Mar. p. 45.
Gulf of Alaska studies; Mar. p. 46.
hatchery techniques, new; Apr. p. 39.
Pacific:
 pink species transplanted to Atlantic coast; Mar. p. 44.
 study of intermingling of United States and Canadian; Mar. p. 37.
research in North Pacific and Bering Sea; Mar. p. 22.
Strait of Georgia, tagging program in; Feb. p. 67.
tagging on Atlantic Coast; Aug. p. 55.
tagging program, cooperative United States-_____; Dec. p. 59.
tagging program in British Columbia for chinook and silver; Aug. p. 55.
Scholarship awards, ten, in fisheries fields; Aug. p. 58.

CANADA

Scientific research, Fisheries Minister emphasizes need for; Mar. p. 43.

Seals:

harp and hood, protocol amendment of International Convention for the Northwest Atlantic Fisheries ratified by _____; May p. 43.

harp stocks decline; Mar. p. 45.

Smoked fish regulations, new; Apr. p. 51.

Smoking small fish, scientists develop new process for; Mar. p. 49.

Spanish trawler convicted for violation of _____ territorial waters; Sept. p. 59.

Technological research highlights; Dec. p. 87.

Tuna:

canned in oil, Japanese export prices to _____, 1964; Oct. p. 64.

canning, scientists devise new method to speed; Mar. p. 49.

migrations off Atlantic Coast studied; Mar. p. 45.
New Brunswick fishermen to enter east coast fishery for; Jan. p. 44.

New Brunswick industry; June p. 37.

Nova Scotia, new cannery planned for; Aug. p. 55.

Unloading fishing vessels, "airlift" pump being developed for; Mar. p. 48.

U. S. imports of fishery products from _____, 1962; Feb. p. 56.

U. S. exports of fishery products to _____, 1962, trends in; Feb. p. 55.

Vancouver Island (British Columbia) explorations by M/V "John N. Cobb," October-November 1962; June p. 1.

Vessel, factoryships, small stern-fishing, ordered by Newfoundland firm from Dutch shipyard; July p. 49.

Vessel, fishing, assistance regulations, changes announced in; Aug. p. 51.

Vessel, new, for fisheries research planned; Sept. p. 58.

CANARY ISLANDS

Fisheries development plan, 1964-1967; Mar. p. 68.
Polish fishing base planned in _____; Apr. p. 71.

CANNED FISH

Defense Department purchases; Jan. p. 9, Mar. p. 16, Apr. p. 15, May p. 17, June p. 15, July p. 12, Aug. p. 20, Oct. p. 24, Nov. p. 28, Dec. p. 38.

Fair Labor Standards Act, overtime exemption for _____ may be applicable to products containing more than 20 percent nonaquatic matter; Nov. p. 119.

Japan's export target, fiscal year 1964; June p. 44.

Morocco's exports, June-Sept. 1962-63; Feb. p. 76.

Norway's exports; Feb. p. 78, July p. 70, Oct. p. 74.

Portugal:

exports; Feb. p. 80, June. p. 57.

pack; Feb. p. 81, June p. 57, Dec. p. 111.

Salmon, British Columbia, pack lower in 1963; Jan. p. 43.

Sardine, Maine, stocks; Jan. p. 20, Mar. p. 22, July p. 19, Sept. p. 27, Oct. p. 29.

United Kingdom marketing trends; Feb. p. 85.

Veterans Administration estimated requirements from 1964 packs; Apr. p. 16.

CANNING

Canned foods, questions frequently asked about; May p. 102.

CANNING (cont.)

- Crab, king, effects of certain pyrophosphates on moisture retention in; Aug. p. 19.
Tuna _____, Canadians devise new method to speed; Mar. p. 49.

CAPELIN

- Norwegian fishery trends, 1964; Dec. p. 109.

CAPE VERDE ISLANDS

- Tuna:
Japanese:
base to be constructed on _____; May p. 48.
firm signs agreement for joint venture in _____;
July p. 58.
report good landings at _____ base off West
African Coast; Oct. p. 66.

CARGO RATES

- Alaska Steamship seasonal _____, denial of petition for rehearing on; Aug. p. 14.

CARIBBEAN SEA

- FAO _____ fisheries development project; May p. 41.
Japanese distant-water trawl fisheries, future of;
Mar. p. 61.
Sea bottom of _____ area under study; Jan. p. 28.
Trawling survey off Colombia by M/V "Oregon";
Sept. p. 22.

CAROLINE ISLANDS

- Commercial fisheries project at Palau; Aug. p. 16.
Dec. p. 31.
Tuna fishing base, U. S., planned in Palau Islands;
Apr. p. 32, Oct. p. 21.

CARP

- Grass _____ from Malaysia to fight water vegetation in ponds; Dec. p. 26.
Hatching, artificial, of _____ in Taiwan; Mar. p. 70.
Introduction of _____, a difference in philosophy on;
June p. 87.

CATFISH

- North American _____ are solicitous parents; Aug. p. 46.

"CAVIAR"

- Danish fishery firm plans processing plant in northern Germany; May p. 49.

CENSUS, BUREAU OF THE

- Distributors' stocks of canned foods, survey of;
Jan. p. 74.
Economic census of commercial fishing industry planned; Apr. p. 77.
Export classification, time extended for comments on changes in; Sept. p. 100.

CENTRAL PACIFIC FISHERIES INVESTIGATIONS

- Earth's gravitation measured (M/V "Charles H. Gilbert" cruise 73); Dec. p. 35.
International Indian Ocean Expedition, research vessel "Anton Bruun" participation in; Sept. p. 16.
Oceanography:
eddies southwest of Hawaiian Islands studied (M/V "Charles H. Gilbert" cruise 72); Aug. p. 18.
research vessel, new, completes successful maiden trip (M/V "Townsend Cromwell" cruise 1);
May p. 13.

CENTRAL PACIFIC FISHERIES INVESTIGATIONS

- Oceanography:
trade wind zone studies continued; July p. 10, Aug. p. 17, Sept. p. 15, Oct. p. 22, Nov. p. 27, Dec. p. 34.
water sampling studies in central Pacific ocean;
Aug. p. 35.
Pelagic fish population studies continued (M/V "Charles H. Gilbert" cruise 71--Part I and Part II); June p. 12.
Plankton studies give clues to Indian Ocean-Atlantic Zoogeographical relations; May p. 14.
Raft drifts and related marine biological observations (M/V "Charles H. Gilbert" cruise 71--Part II); June p. 12.
Tuna:
behavior studies continued; Aug. p. 16, Dec. p. 36.
biological studies continued (M/V "Charles H. Gilbert" cruise 74); Dec. p. 35.
juveniles, midwater trawling for; Dec. p. 32.
skipjack blood-typing studies expanded; Nov. p. 26.
studies continued (M/V "Charles H. Gilbert" cruises 69 and 70--Ahipalaha II); Feb. p. 13, June p. 14.
swimming behavior studied; Mar. p. 15, Nov. p. 25.

CEYLON

- Dried fish purchased from Angola for first time;
Jan. p. 42.
Government fisheries corporation, proposed, may lead to fisheries expansion; Nov. p. 80.
Trawler, fishing, Yugoslav-built, received; Dec. p. 89.
Tuna fishery, loan requested from Japan to start;
June p. 38.
Vessels, negotiations for purchase abroad of tuna and trawling; Nov. p. 80.

CHANNELS

- Sea _____ carved out of bottom of ocean by gigantic "rivers of mud"; Aug. p. 116.

CHAR

- Canada's fishery resources of far north surveyed;
Mar. p. 47.

CHARTS

- Canadian, new, _____ of Nova Scotia fishing banks;
Nov. p. 79.

CHESAPEAKE BAY

- Chesapeake Research Council organized; Sept. p. 17.
Crab, blue, industry of _____--an industry in transition; Dec. p. 1.
Fishery products, more, used in U. S. in 1963; May p. 34.
Maryland, "fish-kill" controls established in; Aug. p. 33.
Menhaden fleet, New Jersey, moves into more productive _____ area; Nov. p. 36.
Oysters, developments reported by scientists on MSX disease of; Sept. p. 36.
Research conference points up problem areas; Apr. p. 13.
Watermen of Chesapeake (motion picture); Jan. outside back cover.

CHESAPEAKE STATES

- Landings, fisheries, 1962; Feb. p. 15.

CHICAGO MERCANTILE EXCHANGE

- Shrimp, frozen, futures trading on _____, new contracts opened for; Apr. p. 30.

CHILE

- Anchoveta reappear off northern _____; Apr. p. 52.
 Crab, king, venture, developments on; Sept. p. 60.
 Fisheries Development Institute, sonar expert assigned to; June p. 38.
 Fisheries trends, November 1963; Jan. p. 47.
 Fish meal:
 factory, new one at Iquique dedicated as joint venture with South Africa; May p. 48.
 factory, new, planned; Dec. p. 89.
 industry trends; July p. 49, Oct. p. 53.
 production and exports, January-May 1963-64; Oct. p. 44.
 Purse seiners for _____, Norwegian shipyard building four; June p. 54.
 Purse-seine vessels, two British-built, acquired by company in _____; June p. 61.
 Tuna:
 fleet to be expanded; Sept. p. 60.
 industry expanding; Aug. p. 58.
 Japan, joint enterprise with; May p. 48.
 Whale meat sales agreement, Japanese Fisheries Agency approves Chilean-Japanese; Nov. p. 97.
 Whaling:
 catcher vessels off _____, Japanese firm issued licenses to operate two; Mar. p. 62.
 regulations, new, on foreign permits as Japanese whalers begin operations for Chilean firm; June p. 38.

CHINA, COMMUNIST

- Aquatic products society founded; June p. 39.
 Fisheries trends; Apr. p. 52.
 Japan-_____ fisheries agreement; Jan. p. 61.
 Trawlers, large, purchase planned by _____ of; Sept. p. 60.

CHUB

- Lake Michigan:
 depth distribution studies of _____ and associated species continued; Jan. p. 11.
 seasonal distribution and abundance of _____ studied; June p. 15, Aug. p. 23, Nov. p. 33, Dec. p. 40.
 Smoked _____ processing studies in Great Lakes region, status report on; Feb. p. 44, Sept. p. 39.
 Smoking, experimental, preliminary report on; Nov. p. 1.

CIRCUIT COURT OF APPEALS, U. S.

- Fishermen considered employees for tax purposes by _____; Jan. p. 79.
 Fishermen considered independent contractors for tax purposes by _____; July p. 88.

CIVIL SERVICE COMMISSION

- Oceanographers, Federal, educational requirements for; Nov. p. 116.

CLAM(S)

- Alaska:
 canned pack, 1963; June p. 9.
 commercial digging for _____ feasible despite earthquake; Sept. p. 12.
 landings of _____ for 1963; Apr. p. 9.
 Anesthetic for shellfish tested on _____; Aug. p. 37.
 Maryland, ARA research project to be continued; Oct. p. 83.
 Method, new, for holding _____ in laboratory tanks; Aug. p. 19.

CLAM(S)

- Mexico's Baja California fishery; June p. 50.
 Quahog research by University of Rhode Island; Sept. p. 17.
 Soft _____ sanitation quality study in Middle Atlantic area; Oct. p. 23.
 Surf _____ survey off Maryland and Virginia; Nov. p. 41.

COAST AND GEODETIC SURVEY, U. S. (see COMMERCE, DEPARTMENT OF)

COAST GUARD, U. S. (see TREASURY, DEPARTMENT OF THE)

COD

- Atlantic Ocean crossed by _____; Apr. p. 8.
 Canada studies _____ population in Northwest Atlantic; Mar. p. 43.
 Dried _____, Dominican Republic prices reduced on; Mar. p. 53.
 Norway:
 fishery trends, March-April 1964; June p. 52.
 Lofoten fishery disappointing in 1964; Aug. p. 81.
 Populations of _____ in Far North investigated by Canada; Mar. p. 47.

CODEX ALIMENTARIUS COMMISSION

- Food Hygiene Worldwide Expert Committee meets in Washington; Dec. p. 76.
 International food standards, a progress report on the development of; Sept. p. 1.
 Sanitary regulations in international traffic in animals and animal products, need for; Dec. p. 74.
 Second Session meets in Geneva; Dec. p. 75.

COD OIL

- Mexico's import tariff reduced; Nov. p. 98.

COLOMBIA

- Fisheries trends and potential; Nov. p. 81.
 Shrimp vessel equipment sold to _____ firm by U. S. company; May p. 15.
 Territorial waters at 200 miles bill passed by House; Jan. p. 47.
 Trawling survey off the Caribbean coast by M/V "Oregon"; Sept. p. 22.
 Vessels, fishing industry loses; June p. 39.

COLUMBIA RIVER

- Marine fauna, deep-water, survey off mouth of _____ by M/V "John N. Cobb"; Jan. p. 23, Apr. p. 25.
 Salmon:
 migration patterns revealed by marking program; Oct. p. 35.
 returns encouraging; Dec. p. 36.
 summer fishery postponed; Aug. p. 37.

COMMERCE, DEPARTMENT OF

- Area Redevelopment Administration:
 fisheries potential survey in Carteret County, N. C.; July p. 81.
 Washington, Willapa Bay oyster industry, study approved of; Feb. p. 88.
 Coast and Geodetic Survey:
 Indian Ocean explorations by the research vessel "Pioneer"; Mar. p. 23, Sept. p. 33.
 Oceanography, exchange visits by United States and Soviet oceanographers sponsored by _____; Nov. p. 50.

COMMERCE, DEPARTMENT OF (cont.)

- Coast and Geodetic Survey (cont.):
research vessel "Oceanographer" launched; June
p. 23.
Irradiation preservation of food studied for com-
mercial implications; June p. 24.

COMMERCIAL FISHERIES, BUREAU OF

- Alaska:
disaster relief--charter vessel loan regulations;
Aug. p. 95.
fishery loan office, emergency, opened; June p. 63.
new vessels financed with replacement loans under
the Mortgage Insurance Program; June p. 9.
seismic exploration agreement with _____ com-
pleted; July p. 8.
Atomic Energy Commission fishery products irra-
diator at Gloucester (Mass.) dedicated; Dec. p. 57.
Commercial Fisheries Research and Development
Act; Sept. p. 100, Dec. p. 118.
Composition and nutritive value of fishery products,
research program on; Mar. p. 23.
Fish block, frozen, standards for grades; Aug. p. 90,
Nov. p. 117.
Fisheries loan program takes emergency actions
in Alaska; July p. 8.
Fishery attaches, newly appointed, arrive at
posts; Mar. p. 77.
Fishery loans, Alaska disaster, application filing
extended to Oct. 31, 1964; Nov. p. 17.
Fishing Fleet Improvement Act, proposed regula-
tions announced for notice of hearing requirements
of construction subsidy assistance under; Dec.
p. 123.
Great Lakes:
aid under new fisheries law given; Oct. p. 25.
fishery failure due to resource disaster, deter-
mination by Secretary of Interior of; Dec. p. 117.
smoked fish processing studies, status report on;
Feb. p. 44.
Gulf of Guinea, research vessel "Geronimo" makes
new discoveries in; July p. 24.
Inspection service fees for fishery products; Mar.
p. 76.
Ireland's fishing industry surveyed by scientists
of _____; Sept. p. 69.
Irish-U. S. cooperative fishery research project,
four specialists from the _____ arrive in Ireland
to begin; Aug. p. 67.
Irradiator, fishery products, in Massachusetts
nears completion; Oct. p. 35.
Irradiator installed aboard M/V "Delaware" for
irradiation of fish at sea; Aug. p. 33.
Laboratory, biological, at Oxford, Md., dedicated;
Dec. p. 38.
Regional and area boundaries and offices; May
outside back cover.
Research vessels:
"Geronimo" participates in EQUALANT III in
Gulf of Guinea; Apr. p. 47.
"Townsend Cromwell" completes successful maid-
en voyage; May p. 13.
Resource disaster funds, fishery, under Commer-
cial Fisheries Research and Development Act;
Oct. p. 85.
"Townsend Cromwell" commissioned as new re-
search vessel; Mar. p. 32.
Tuna, bluefin, age-growth studies by M/V "West
Point" of San Diego biological laboratory; Dec.
p. 61.

COMMERCIAL FISHERIES, BUREAU OF

- Vessel, "Delaware II" to be built as new exploratory
fishing research; Aug. p. 44.

COMMERCIAL FISHERIES RESEARCH AND DEVELOPMENT ACT

- Great Lakes area fishery failure due to resource
disaster, Secretary of Interior determines; Dec.
p. 117.
Regulations under _____; Sept. p. 100, Dec. p. 118.

COMMERCIAL FISHERIES REVIEW

- Back issues available; Nov. p. 11.

COMMISSION FOR TECHNICAL COOPERATION IN AFRICA

- Specialist meeting on crustaceans held in Zanzibar;
Apr. p. 40.
Trawling survey in Gulf of Guinea; Aug. p. 1.

CONGO-BRAZZAVILLE

- Fisheries expansion in _____ being considered; Dec.
p. 89.

CONGO, REPUBLIC OF

- Fisheries production, fresh-water, drops sharply;
Feb. p. 68.

CONGRESS, EIGHTY-EIGHTH (First Session)

- Fishermen's financial aid for economic dislocation;
Jan. p. 80, Apr. p. 79.
Indian fishing rights; Jan. p. 80.
Import commodity labeling; Jan. p. 80, Feb. p. 92.
International North Pacific fisheries problems; Jan.
p. 80.
Oceanographic world conference; Jan. p. 80.
Science and technology office for Congress; Jan. p. 80.
Shellfish industry problems; Feb. p. 92.
Small business disaster loans; Jan. p. 81.
Soviet traffic in U. S. territorial waters; Feb. p. 92.
State Department appropriations FY 1964; Jan. p. 81,
Feb. p. 92.
Tariff Schedules of U. S. of August 31, 1963, sug-
gested changes invited by House Committee on
Ways and Means on; Feb. p. 93.
Vessel collision liability; Jan. p. 81.
Water Pollution Control Administration; Jan. p. 81,
Aug. pp. 102-103, Oct. p. 89, Nov. p. 123.
Water Resources council; Jan. p. 81, Nov. p. 123.

CONGRESS, EIGHTY-EIGHTH (Second Session)

- Adjournment of 88th Congress; Nov. p. 120.
Agricultural Department appropriations; Dec. p. 126.
Alaska:
Claims Commission; June p. 65.
fishery conservation in; Apr. p. 79.
disaster relief; May p. 79, June p. 65, July p. 88,
Aug. p. 98, Nov. p. 120.
earthquake damage; Nov. p. 120.
fur seals; Oct. p. 86.
Omnibus Act amendment; June p. 65, July pp. 88-89,
Aug. pp. 98-99, Sept. p. 104, Oct. pp. 86-87.
prices for fish in; Sept. p. 105.
Reconstruction Office; June p. 66.
salmon; Nov. pp. 120-121.
transportation rates; July p. 89.
Anadromous fish conservation; June p. 66, July p. 89,
Aug. p. 99, Sept. pp. 104-105, Oct. p. 87.
Antidumping Act amendments; May p. 80, June p. 66,
July p. 89, Aug. p. 99.

CONGRESS, EIGHTY-EIGHTH (Second Session) (cont.)

Assembling of 89th Congress; Nov. p. 120.
 Budget of the United States; Mar. p. 78.
 California canning industry; June p. 66.
 Chemical pesticides coordination; June p. 66, July p. 89, Sept. p. 105, Oct. p. 87, Dec. p. 126.
 Coast Guard appropriations; May p. 80.
 Commercial fisheries fund; Apr. p. 79, June p. 66, July p. 89, Aug. p. 99.
 Commercial fishery resources survey; June p. 67, Sept. p. 105, Nov. p. 121.
 Commodity packaging and labeling; Mar. p. 78.
 Conservation of marine fisheries resources; Jan. p. 80, Mar. p. 78, Apr. p. 79, May p. 80, June p. 67, July pp. 89, 90.
 Consumer protection; Mar. p. 78, July p. 90.
 Continental Shelf convention; June pp. 67, 68.
 Continental Shelf lands; Oct. p. 87.
 Cuban fishing activities in U. S. territorial waters; Mar. p. 78.
 Export control of fishery products; Sept. p. 105.
 Federal Insecticide, Fungicide, and Rodenticide Act; Mar. p. 78, May p. 81, June p. 68, July p. 90.
 Federal water resources research program; May p. 80.
 Fish and cannery workers' resolution on fisheries; Aug. p. 99.
 Fisheries legislation; June p. 68, Nov. p. 121.
 Fisheries limits; June p. 68.
 Fishermen's organization and collective bargaining; Sept. p. 105.
 Fishery resources; Mar. p. 79.
 Fishing industry claims against the U.S.; Jan. p. 80.
 Fishing industry problems; Sept. pp. 105, 106, Nov. p. 121.
 Fishing vessel protection; June p. 68.
 Fish protein concentrate; Sept. p. 105, Dec. p. 126.
 Food and fiber commission; Jan. p. 80.
 Food-for-peace, and fish; Jan. p. 80, Feb. p. 92, Mar. p. 79, Apr. pp. 79, 80, June pp. 68, 69, Oct. p. 87, Nov. p. 121.
 Food Marketing National Commission; May p. 80, June p. 69, July p. 90, Aug. p. 99, Sept. p. 105.
 Foreign Assistance Act of 1961 amendment concerning fisheries; Jan. p. 80.
 Foreign fishing vessels off U. S. coasts; May p. 81.
 Foreign vessels' processing of fishery products in U. S. territorial waters banned; Sept. p. 106.
 Great Lakes fisheries; July p. 91.
 Halibut week; May p. 81, June p. 69.
 Hawaiian Islands; Dec. p. 126.
 Health, Education, and Welfare appropriations, FY 1965; May p. 81, Oct. pp. 87, 88, Nov. pp. 121, 122.
 Import commodity labeling; Apr. p. 80.
 Indian fishing rights; Apr. p. 80, May p. 81, June p. 69, Sept. p. 106, Dec. p. 127.
 Interim adjournment; Sept. p. 104.
 Interior appropriations FY 1965; Apr. p. 80, May p. 81, June p. 69, Aug. pp. 99, 100.
 International Convention for the Northwest Atlantic Fisheries; May p. 82, July p. 91, Aug. p. 101.
 International food standards; July p. 91.
 Law of the sea study; June p. 69.
 Maine fishing industry; Mar. p. 79.
 Marine mammal protection; June p. 69.
 Medical care for vessel owners; June p. 69, July p. 91, Aug. p. 101, Sept. p. 106.
 Medical care for vessel personnel; June p. 69.
 National Oceanography Agency; July p. 91.

CONGRESS, EIGHTY-EIGHTH (Second Session)

Natural Resources Department; Nov. p. 122.
 Navigable waters obstruction marking; Sept. p. 106.
 North Pacific Fisheries Convention; Nov. p. 122.
 North Pacific fisheries resources; July p. 91.
 North Pacific fur seal convention; Jan. p. 80, Feb. p. 92, Mar. p. 79.
 Oceanographic Council; Sept. p. 106.
 Oceanographic legal problems; July p. 91.
 Oceanographic research program; Sept. p. 106.
 Oceanographic research vessel inspection; Apr. p. 80, Sept. p. 106.
 Oceanography; Mar. p. 79, Apr. p. 80, May p. 82, Aug. p. 101.
 Pacific Islands Trust Territory development; Apr. p. 80, Sept. p. 107, Oct. p. 88.
 Passamaquoddy tidal power project; Apr. p. 81, Sept. p. 107, Nov. p. 122.
 Pesticides; Apr. p. 81, Nov. p. 122.
 Pesticides coordination; Aug. p. 101.
 Pollution of sea by oil treaty amendments; Apr. p. 81.
 Price-quality stabilization; Jan. p. 80, Feb. p. 92, Mar. p. 79, Apr. p. 81.
 Public Works appropriations, 1965; Oct. p. 88.
 Radiation preservation of fish; Nov. p. 122.
 Research programs; Apr. p. 81, June p. 69, July p. 91.
 Salmon canning; Nov. p. 122.
 School-lunch program use of imported products; May p. 82.
 Science and technology office for Congress; Mar. p. 79.
 Small business disaster loans; Feb. p. 92, Mar. p. 79.
 Soviet fishing industry; Mar. p. 80.
 State Department appropriations FY 1965; June p. 70, July p. 91, Sept. p. 107, Oct. pp. 88, 89.
 State regulation of Continental Shelf fisheries resources; Aug. pp. 101, 102.
 Supplemental appropriations:
 FY 1964; July pp. 91, 92, Aug. p. 102.
 FY 1965; Nov. pp. 122, 123.
 Territorial waters of the U. S.; Aug. p. 102, Nov. p. 123.
 Trade agreements program; Nov. p. 123, Dec. p. 127.
 Trade Expansion Act amendment; Aug. p. 102, Sept. p. 107.
 Trade negotiations; June p. 70, July p. 92.
 Transportation Act of 1964; June p. 70.
 Transportation amendments of 1963; Apr. p. 81.
 Transportation amendments of 1964; Mar. p. 80, Apr. p. 81, May p. 82, June p. 70.
 U. S. fishing industry; July p. 92.
 Vessel construction subsidy amendments; Mar. p. 80, May p. 83, June p. 70, Aug. p. 102, Sept. p. 107, Oct. p. 89.
 Vessel engaged in fisheries; Aug. p. 102, Sept. p. 107.
 Vessel measurement; June p. 70.
 Vessels of the U. S., 1964; Oct. p. 89.
 Water pollution; Oct. p. 89.
 Water Pollution Control Administration; Mar. p. 80, Apr. p. 81, June p. 70.
 Water pollution control aid to industry; June p. 71.
 Water Resources Council; May p. 83, June p. 71, Aug. p. 103, Sept. p. 107, Oct. p. 89.
 Whale conservation; Oct. p. 89.

CONTINENTAL SHELF

East Coast ocean-bottom studies on _____, new instrument effective aid in; Sept. p. 35.

CONTINENTAL SHELF (cont.)

Japanese views on new U. S. law prohibiting fishing in territorial waters by foreign vessels; Nov. p. 91.
North Atlantic Ocean waters of _____ surveyed by M/V "Albatross IV"; Nov. p. 46.

CONVENTION ON THE TERRITORIAL SEA AND CONTIGUOUS ZONE

Dominican Republic ratifies _____; Nov. p. 70.

COOK ISLANDS

Tuna cannery, Japanese-supplied, plan rejected for; Jan. p. 48.

COSTA RICA

Fisheries trends, third quarter 1964; Dec. p. 90.
Landings of fish and shellfish, 1963/64 season; Aug. p. 60.
Tuna transshipment base in _____, Japanese plan; Apr. p. 61.
Turtle, green, regulations; July p. 50.

COURT OF APPEALS, U. S.

Fair Labor Standards Act, ruling upholds breaded seafood processor's overtime exemption under; Nov. p. 119.

CRAB

Alaska:
processing of _____ and shrimp started by new corporation in Juneau area; Mar. p. 8.
supplies of _____ ample for processing plants at Shumagin Islands and Peninsula areas; Nov. p. 17.
tagging program as of Aug. 1964; Nov. p. 20.
Belgium-Luxembourg import quota and duty for fresh and frozen cooked _____ and shrimp, Jan. 1, 1964-Mar. 31, 1965; May p. 47.

Blue:

Chesapeake Bay and the South industry--an industry in transition; Dec. p. 1.
Chesapeake Bay research program on _____ to be developed by Maryland and Virginia; Apr. p. 13.
industry mechanization, measures for strengthening the economic position with; Jan. p. 1.
South Carolina abundance studies with experimental trawling, July-Dec. 1963; Feb. p. 49.

Canada finds _____ in Far North; Mar. p. 47.

Dungeness:

Alaska:
canned pack, 1963; June p. 9.
catches reported good in Cape Fairweather area; Sept. p. 12.
Kodiak firm processes _____; Sept. p. 11.
Kodiak processing plant operations following earthquake; Nov. p. 16.
landings up in 1963; Apr. p. 9.
prices at Cordova drop; Nov. p. 17.
processing of _____ started by Kodiak cold-storage plant; Mar. p. 8.

California:

abundance and condition surveyed prior to open season; Jan. p. 8.
northern coastal waters survey; Mar. p. 13.
Edible _____; June outside back cover.
Japanese coastal waters, new fishery developed in; Sept. p. 76.

King:

Alaska:
canned pack, 1963; June p. 9.

CRAB

King:

Alaska:

exploratory fishing plans completed; July p. 9.
fishing rate heavy on tagged _____; Feb. p. 11.
Kodiak processing operations; Nov. pp. 16, 17.
landings low at Kodiak; Dec. p. 24.
landings up in 1963; Apr. p. 9.
processors plan rebuilding; Aug. p. 12.
Soviet fleet off Kodiak; July p. 7.
tagged _____ retains tag over six years; June p. 9.
tagging in Portlock Bank area; Sept. p. 13.
tag recoveries reduced by heavy winds; Mar. p. 9.

Alaska, Gulf of:

Japanese fishing activity during June; Sept. p. 11.
Soviet fishing activity during June; Sept. p. 10.

Bristol Bay:

Japanese factoryships begin fishing season earlier than year ago; June p. 9.

canned:

Japanese pack from Bristol Bay, Okhotsk Sea, and Olyutor Sea, 1956-1963; Aug. p. 72.

pyrophosphates, effects of certain, on moisture retention; Aug. p. 19.

Chilean-Japanese proposed venture for _____, developments on; Sept. p. 60.

conference, second, on technology and processing announced; Mar. p. 9.

Japan:

Bristol Bay, operations in; Aug. p. 72, Nov. p. 94.
canned exports, fiscal year 1963; Aug. p. 72.
Eastern Bering Sea, two motherhips issued licenses for 1964 operations in; May p. 59.
North Pacific, status of motherhip fisheries in; Oct. p. 69.
tangle nets, polypropylene, to be used in fishery; May p. 62.

Soviet-Japanese negotiations concluded; July p. 42.
television, underwater, used for locating _____ (M/V "Paragon" cruise 64-1); Sept. p. 12.

Louisiana fishery trends, 1963; Nov. p. 38.

Restraint of trade by _____ fishermen's organization in Washington State; Oct. p. 83.

CROAKER

Chesapeake Bay population discussed at research conference by Maryland and Virginia; Apr. p. 13.

CROKER, RICHARD S.

Fishery attache _____ arrives at Mexico City post; Mar. p. 77.

CUBA

Cannery, fish, new, in _____, equipment built in Estonia for; July p. 50.
Expanded fisheries in _____ claimed result of Soviet aid; Dec. p. 90.
Fish catch and fishing fleet expanded; Nov. p. 82.
Imports of fishery products from Japan, Jan.-Apr. 1964; Sept. p. 60.
Mexico inspects _____ fishing vessels for hoof and mouth disease; Jan. p. 64.

Tuna:

Japanese exporters seeking more trade with _____ and Spain; Sept. p. 72.
Japanese exports to _____ increasing; July p. 57, Sept. p. 72.

CUSTOMS, BUREAU OF

- Groundfish fillets import tariff-rate quota for 1964; Apr. p. 78.
- Tuna, canned in brine, imports under quota proviso for 1964; June p. 64.
- "Tuna with Vegetables," canned, imports dutiable at 20 percent ad valorem; Mar. p. 77.

DAHOMEY

- Outboard motors provided by FAO project; July p. 41.

DEFENSE, DEPARTMENT OF

- Defense Subsistence Supply Centers:
 - canned fishery products purchases; Jan. p. 9, Mar. p. 16, Apr. p. 15, May p. 17, June p. 15, July p. 12, Aug. p. 20, Oct. p. 24, Nov. p. 28, Dec. p. 38.
 - fresh and frozen fishery product purchases; Jan. p. 9, Mar. p. 16, Apr. p. 15, May p. 16, June p. 14, July p. 11, Aug. p. 20, Oct. pp. 23, 24, Nov. p. 28, Dec. p. 37.

DEMERSAL FISH

- Arabian Sea catches by R/V "Anton Bruun"; Nov. Suppl. p. 27.
- Bay of Bengal catches by R/V "Anton Bruun"; Nov. Suppl. p. 27.

DENMARK

- British-Danish fishery cooperation, talks on; May p. 77.
- Canned fish, fish used in 1963 for; Mar. p. 51.
- "Caviar" processing plant in northern Germany planned by Danish fishery firm; May p. 49.
- Copenhagen fisheries trade fair; Apr. p. 57, Dec. p. 81.
- Developments, new, in the fisheries; July p. 51.
- Exports, fishery, to the U. S., 1963; June p. 39.
- Exports of fish and shellfish, 1963; Mar. p. 51.
- Exports of fishery products; Apr. p. 55, July p. 51, Sept. p. 62, Oct. p. 53.
- Fillets (flatfish and cod), fish used in 1963 for; Mar. p. 51.
- Fisheries Attache, new, appointed for U. S. and Canada; Nov. p. 83.
- Fisheries Council, industry views presented at annual meeting of; Mar. p. 51.
- Fisheries developments, Apr. 1964; July p. 51.
- Fisheries legislation revisions proposed; June p. 40.
- Fisheries trends, 1963; Apr. p. 54.
- Fisheries trends; Apr. pp. 53, 54, June p. 39, July p. 51, Sept. p. 61, Oct. p. 55.
- Fishermen, number employed and average annual gross income, 1963; Mar. p. 51.
- Fishery cooperatives enjoy good year; June p. 40.
- Fish fillet processing plant in the Faroe Islands, Danish Government approves economic guarantee for the construction of; May p. 49.
- Fishing limits; Apr. p. 53, July p. 51.
- Fishing limits of the Faroe Islands, Danish inspection vessels available to patrol; May p. 49.
- Fish marketing in the U. S., promotion of; June p. 40.
- Fish meal production in 1963; Mar. p. 51.
- Fish meal supply and distribution, 1962-1963; July p. 52.
- Fish oil production in 1963; Mar. p. 51.
- Fish reduction industry, water purification and protein extraction process may be applied to; Aug. p. 61.

DENMARK

- Freezerships for fish, new trade agreement with Soviet may include; Jan. p. 49.
- Freezership-trawlers built for Soviet Union shipyard in _____; Oct. p. 56.
- Frozen food outlets may triple; June p. 40.
- Gear and nets for fishing, value of, 1963; Mar. p. 51.
- Herring:
 - catch forecasts; Apr. p. 53.
 - marketing problems; Apr. p. 53.
- Imports of fish and shellfish; Mar. p. 51, Sept. p. 62.
- Industrial fish landings, low, stimulate price increase; June p. 40.
- Industrial products supply and distribution, 1963; July p. 52.
- International Council for the Exploration of the Sea annual 1964 meeting expected to consider new draft convention; Aug. p. 52.
- International Convention for the Northwest Atlantic Fisheries harp and hood seal protocol ratified by _____ and France; Dec. p. 79.
- Landings and fishing industry trends, 1963-1962; Mar. p. 50.
- Landings, fishery; Apr. p. 54, July p. 51, Sept. p. 61, Oct. p. 55.
- Marine oil:
 - foreign trade, 1962-1963; July p. 52.
 - supply situation, 1962-1963; July p. 52.
- Nordic Fisheries Conference, ninth, attended by _____; Sept. p. 55.
- Nordic, joint, fisheries limits considered; June p. 39.
- Plaice, processing and distributing; July p. 51.
- Polish-Danish fishery relations; Apr. p. 53.
- Processed fishery products, first quarter 1964, production of; Sept. p. 61, Oct. p. 55.
- Processing plant, fisheries, opened in West Germany by Danish firm; Oct. p. 55.
- Seaweed, artificial, may help protect shoreline; Oct. p. 56.
- Smoked fish, fish used in 1963 for; Mar. p. 51.
- Soviet fishing gear, Danish fishermen protest careless disposal of; Apr. p. 57.
- Soviet interference with Danish fishing operations claimed; Apr. p. 74.
- Soviets order three more freezer-trawlers from Danish shipyards; May p. 76.
- Tuna from Japan, _____ contracts to import; Feb. p. 72.
- U. S. fishery attache program in _____; Nov. p. 29.
- U. S. market for fishery products; July p. 52.
- Vessel(s), fishing:
 - freezer-trawlers, new series under construction in for U.S.S.R.; Mar. p. 70.
 - stability regulations and recommendations; Apr. p. 56.
 - structural research meeting planned on; Sept. p. 64.
 - value of; Mar. p. 51.
- Western European Fisheries Convention, authority sought for _____ ratification of; Aug. p. 61.
- Whiting, undersized, continued dispensation requested on; July p. 51.

DOGFISH

- Norway signs agreement with Great Britain on fishing for _____ and basking shark; Sept. p. 88, Dec. p. 109.

DOLPHIN

- Fishermen's catch and gear ravaged by _____; May p. 103.

DOLPHIN (cont.)

Gulf of Mexico true _____ known for speed and fighting spirit; Sept. p. 9.
National Fisheries Center and Aquarium, trained _____ will be featured at; Apr. p. 22.

DOMINICAN REPUBLIC

Canned mackerel (salmon style), canned tuna, canned sardines, and dried cod, _____ reduces prices on; Mar. p. 53.
Explorations, fishery, preliminary, off _____ by M/V "Silver Bay"; Jan. p. 29.
Territorial Sea and Contiguous Zone Convention ratified by _____; Oct. p. 49, Nov. p. 70.

DRYING

United Kingdom fish _____ process cut to 30 hours by new machine; July p. 80.

EARTHQUAKE

Alaska:
commercial fishing industry still operational in spite of _____; July p. 6.
damage to fishery industry by _____; June p. 8.
declared major disaster area by Office of Emergency Planning; July p. 87.
fishery loan office, emergency, opened by Interior as result of _____; June p. 63.
seismic exploration agreement completed; July p. 8.
California:
Del Norte County declared major disaster area by Office of Emergency Planning; July p. 87.

ECHO-SOUNDERS

Norwegian firm, improved _____ offered by; Aug. p. 82.

ECONOMIC

Blue crab industry, measures for strengthening the _____ position of; Jan. p. 1.

ECUADOR

Bottomfish industry development; Sept. p. 66.
Lobsters, spiny, industry trends, 1963; Sept. p. 66.
Manta fishing industry expanding; Jan. p. 49.
Shrimp:
industry trends, 1963; Sept. p. 65.
producers hurt by lower prices in U. S. market; Jan. p. 49.
Tuna industry trends, 1963; Sept. p. 64.
Whaling, Japanese, operation in _____; May p. 62.

EDIBLE FISHERY PRODUCTS

Marketing of _____, 1963; July p. 20, Oct. p. 29.
Marketing prospects, winter 1963/64; Jan. p. 20.
U. S. foreign trade in processed _____, Apr. 1964; Aug. p. 43.

EGG(S)

Salmon, pink, _____ deposition success varies in Sashin Creek, Alaska; Mar. p. 9.

EGYPT

Food processing plants include fishery products, plans for; Jan. p. 50.

ELECTRICAL FISHING

North Atlantic, television used to observe _____ gear in operation in (M/V "Delaware" cruise 64-4); Sept. p. 30.
Tests on _____ continued by M/V "Delaware"; Nov. p. 43.

ELECTRICAL TRAWLING

Shrimp _____ evaluation continued by M/V "George M. Bowers"; Feb. p. 22, July p. 12.

EL SALVADOR

Fisheries to be aided by United Nations special fund; Dec. p. 91.

EMERGENCY PLANNING, OFFICE OF

Alaska and a California county declared major disaster areas by _____; July p. 87.

EMPLOYMENT

Fishermen considered independent contractors for tax purposes by United States Court of Appeals for the Fifth Circuit; July p. 88.
Fishermen employees for tax purposes, U. S. Circuit Court of Appeals holds; Jan. p. 79.

EPIZOOTICS, INTERNATIONAL OFFICE OF

Sanitary regulations in international traffic in animals and animal products, need for; Dec. p. 74.

EQUALANT III

Gulf of Guinea, research vessel "Geronimo" participates in _____ in; Apr. p. 47.

ESTONIA

Cannery, fish, in Cuba, _____ builds equipment for; July p. 50.

ESTUARINE

Aquatic Research Institute established at Stockton, Calif., to study _____ areas of California and Asia; Feb. p. 40.
Gulf estuaries, ecology of western; Dec. p. 45.

ETHIOPIA

Commission for Technical Cooperation in Africa crustaceans specialist meeting attended by _____; Apr. p. 40.
Fishery products, new, Bulgaria-_____ company in _____ will build; July p. 53.

EUROPE

Northeast Atlantic Fisheries Commission second meeting held at the Hague; Aug. p. 52.
Tuna, frozen, Japanese exports to _____ and Africa; Apr. p. 59.

EUROPEAN ECONOMIC COMMUNITY

Denmark's exports of fishery products to _____, Jan.-Sept. 1963; Apr. p. 56.
France establishes minimum price regulations for herring imports from other _____ countries; Dec. p. 93.
Tariff quotas on some fishery products granted to certain member states; Apr. p. 40.

EUROPEAN FISHERIES CONFERENCE

Fishing limit, modified 12-mile, at _____ in London; Mar. p. 35, May p. 40.

EUROPEAN FISHERIES CONFERENCE (cont.)

Fishing limits, Scandinavian countries at _____ in London oppose proposal of; Apr. p. 41.
Meeting opens in London; Feb. p. 59.

EUROPEAN FREE TRADE ASSOCIATION

Denmark's exports of fishery products to _____, Jan.-Sept. 1963; Apr. p. 56.
Tariffs, industrial, reduced another 10 percent; Mar. p. 35.
Tariffs, industrial, scheduled for further reduction; Dec. p. 82.
Tariff reduction on certain fishery products; Apr. p. 40.

EXPLORATORY FISHING

Research vessel, "Delaware II," to be built for _____; Aug. p. 44.

EXPORT OPPORTUNITIES

Sample Display Service, new, offers export development opportunity; Nov. p. 28.

EXPORTS

Cod oil from U. S., Mexico reduces tariff on imports of; Nov. p. 98.
Denmark imports fishery products from United States, 1962-63 and early 1964; Sept. p. 62.
Edible fishery products; Jan. p. 34, May p. 35, Oct. p. 41.
Fish oils:
trends; Feb. p. 31, Aug. p. 32, Nov. p. 36.
U. S. _____; Jan. p. 18, Apr. p. 21, Sept. pp. 25, 26, Oct. p. 28, Dec. p. 47.
world _____, 1963; Sept. p. 50.
Norway's canned fish _____, 1962-1963; June p. 53.
Philippine fishing industry development spurred by change in Government import policy; Nov. p. 106.
Processed edible fishery products; Mar. p. 31, Apr. p. 37, May p. 46, June p. 31, July p. 36, Aug. p. 44, Nov. p. 63, Dec. p. 66.
Shrimp vessel equipment sold to Colombia firm by U. S. company; May p. 15.
Value of U. S. fishery products _____ up sharply in 1963; Sept. p. 46.

EXPRESS RATES

Tariffs filed to increase charges for REA Express; Feb. p. 51.

FACTORYSHIP

U.S.S.R. starts construction on ninth _____; Apr. p. 73.

FAIR LABOR STANDARDS ACT

Breaded seafood processor's overtime exemption under _____, U. S. Circuit Court of Appeals ruling upholds; Nov. p. 119.

FARM PONDS

Trout production in United States by _____; Aug. p. 40.

FAROE ISLANDS

Exports of fishery products, value of, 1962-1963; May p. 50.
Exports of frozen fish to United Kingdom may be subject to quota; May p. 49.
Fisheries trends, 1963; May p. 50.

FAROE ISLANDS

Fish fillet processing plant in the _____, Danish Government approves economic guarantee for the construction of; May p. 49.
Fishing limit, 12-mile, stirs reactions; May p. 49.
Fishing rights agreement signed between _____ and Greenland; Dec. p. 94.
Fishing rights in Greenland waters to be renegotiated; Oct. p. 57.
Landings in United Kingdom may be subject to quota; May p. 49.
Processed fishery products, 1962-1963; May p. 50.
Stocks of fish on hand, 1962-1963; May p. 50.
Vessel, fishing, fleet status; May p. 51.

FEDERAL AID

Fishery research and special studies; Dec. p. 39.
Funds apportioned to states for fish and wildlife, fiscal year 1964; Apr. p. 14.
Pacific Northwest States receive _____ for fisheries program; Sept. p. 18.
Sport fish and wildlife restoration funds for FY 1965; Aug. p. 20.

FEDERAL MARITIME COMMISSION

Alaska water transportation rates, order stayed for lower; Sept. p. 104.

FEDERAL PURCHASES OF FISHERY PRODUCTS

Defense, Department of:
Defense Subsistence Supply Centers:
canned fish purchases; Jan. p. 9, Mar. p. 16, Apr. p. 15, May p. 17, June p. 15, July p. 12, Aug. p. 20, Oct. p. 24, Nov. p. 28, Dec. p. 38.
fresh and frozen fishery products; Jan. p. 9, Mar. p. 16, Apr. p. 14, May p. 16, June p. 14, July p. 11, Aug. p. 20, Oct. pp. 23, 24, Nov. p. 28, Dec. p. 37.
Veterans Administration estimated requirements of canned fish from 1964 packs; Apr. p. 16.

FEDERAL TRADE COMMISSION

Crab fishermen's organization in Washington State, _____ bars restraint of trade by; Oct. p. 83.
Shrimp peeling machinery, _____ bars discrimination in rentals and sales of; Aug. p. 86.

FIJI ISLANDS

Tuna:
Japanese base in _____, ex-vessel prices at; Dec. p. 92.
Japanese base in _____, status of; Mar. p. 53.
Japanese-British base at _____, completion delayed of; July p. 59.
Japanese Government issues special permit to land _____ fish at American Samoa; May p. 13.
Japanese mothership sails for _____; June p. 46.

FILLETING MACHINE

Yellow perch _____ now in operation in Great Lakes region; Apr. p. 16.

FILLET(S)

Canadians study improvement in texture of _____; Mar. p. 48.
Groundfish _____ from tariff modification, hearings on exclusion of; Feb. p. 91.
Irradiated _____ and fresh controls, comparative tests made with; Jan. p. 19.

FILLET(S) (cont.)

Ocean perch _____ from tariff modification, hearings on exclusion of; Feb. p. 91.

FILM(S)

Oceanography:
marine scientists, new _____ shows work of; Mar. p. 17.
U. S. Navy, new _____ produced by; Feb. p. 16.

FINFISH

South Carolina studies, July-Sept. 1964; Nov. p. 56.

FISH

Speed of _____; May p. 39.

FISH AND WILDLIFE SERVICE (also see COMMERCIAL FISHERIES, BUREAU OF; and INTERIOR, DEPARTMENT OF THE)

Fish blocks, frozen, proposed revised standards for grades of; Aug. p. 90.
Tuna, yellowfin, fishing regulations proposed for Eastern Pacific, July p. 82.
Whaling regulations amended; Aug. p. 92.

FISH BLOCKS

Frozen _____, standards for grades of; Aug. p. 90, Nov. p. 117.

FISH BREEDING

Salmon and sturgeon, Soviet scientists develop new species of; May p. 76.
Trout, rainbow, _____ methods at Idaho fish farm; Oct. p. 38.

FISH CULTURE

Sturgeon fry hatched artificially by Soviets with new type equipment; Mar. p. 27.
Trout production in United States by commercial farms; Aug. p. 40.

FISHERIES EXHIBITION

International _____ planned for Scheveningen in the Netherlands; Mar. p. 38.
International _____ to be held at Trondheim (Norway) in 1965; Oct. p. 75.

FISHERIES LABORATORY

Biological _____ at Oxford, Md., dedicated by U.S. Bureau of Commercial Fisheries; Dec. p. 38.

FISHERIES LOAN FUND (also see LOANS)

Alaska:
charter vessel loan regulations; Aug. p. 95.
disaster loans, filing of applications for; Oct. p. 13, Nov. p. 17.
emergency actions taken by _____ program; July p. 8.
loans, low interest rate, available to fishing industry; Aug. p. 13.
Vessels, fishing, _____ and other financial aid for; Feb. p. 52, June p. 29, Aug. p. 42, Nov. p. 61.

FISHERIES RESEARCH

Aquatic Research Institute established at Stockton, Calif., to study estuarine areas of Asia and California; Feb. p. 40.

FISHERIES RESEARCH

Canadian Fisheries Minister emphasizes need for scientific _____; Mar. p. 43.
Electronic _____ aids, new, developed in Canada; Mar. p. 49.

FISHERMEN

California _____ income, 1962; Feb. p. 11.

FISHERY AGREEMENT(S)

Japan-Communist _____; Jan. p. 61.

FISHERY ATTACHE(S)

Newly appointed _____ arrive at posts; Mar. p. 77.

FISHERY TECHNOLOGY

OECD holds _____ meeting; Dec. p. 81.

FISH FARM(S)

Salmon _____, new, in Washington State established by cooperative effort; May. p. 31.
Trout, rainbow, rearing methods at Idaho _____; Oct. p. 38.

FISH FARMING

Rice farm ponds, gear tested for harvesting fish from; Jan. p. 10, Feb. p. 17, Aug. p. 21.

FISH FILLETS (see FILLETS)**FISH FLAKES**

Canada develops process for dehydrating fish-potato mixture; Jan. p. 46.

FISH HANDLING

Unloading fish, air pump for; Aug. p. 21.

FISHING FLEET IMPROVEMENT ACT

Construction subsidy for fishing vessels, proposed regulations on notice and hearing requirements of; Dec. p. 123.

FISHING LIMITS

British-Norwegian discussions on _____; Sept. p. 49.
Canada:
extended _____ do not apply to U.S. fishing vessels; Oct. p. 52.
proposed 12-mile _____, Fisheries Minister comments on; May p. 47.
Denmark:
extension of _____; Apr. p. 53.
Nordic, joint, _____ considered; June p. 39.
Western European Fisheries Convention ratification and extension of _____ by; Aug. p. 61.
European Fisheries Conference, access to fishing grounds and extension of _____ considered by; Feb. p. 59.
European 12-mile _____, modified, accepted by 13 countries at European Fisheries Conference in London; May p. 40.
Greenland:
Faroe Islands fishing rights in Greenland waters to be renegotiated; Oct. p. 57.
12-mile _____ modified to continue certain historic fishing rights of other countries; Nov. p. 84.
Japanese-Canadian talks on _____ planned; July p. 67.

FISHING LIMITS (cont.)

Law of the Sea Conference, Third International, recommended by American Bar Association Group; Dec. p. 39.

Norway:

12-mile _____, modified, rejected; May p. 70.
Scandinavian countries at European Fisheries Conference in London oppose proposal of _____; Apr. p. 41.

12-mile _____, modified, proposed at European Fisheries Conference in London; Mar. p. 35.
Tunisia detains Italian fishing vessels for violating declared _____; Jan. p. 70.

FISHING VESSEL CONSTRUCTION DIFFERENTIAL SUBSIDY

Authority to accept applications expired; Feb. p. 53.

FISHING VESSEL MORTGAGE INSURANCE

Vessels, _____ and other financial aid for, Oct. 1-Dec. 31, 1963; Feb. p. 52.

FISH KILLS

Chesapeake Bay _____ controls established; Aug. p. 33.
Oregon _____, U.S. Public Health Service investigates; July p. 29.
U.S. Public Health Service aids Louisiana in study of _____; Jan. p. 74, Sept. p. 18.
Water pollution, fish killed by, 1963; Aug. p. 22.

FISH LARVAE

Larval fish biology, first conference held in California on; Jan. p. 10.

FISH MARKET

Korea, Republic of;
dedicates new _____ center at Pusan; Jan. p. 62.

FISH MEAL

Alaska, Gulf of, Japanese fishery during June; Sept. p. 11.
Angola production and exports, Jan.-Dec. 1963; May p. 40.
Animal and poultry nutrition, use of _____ and oil highly regarded in; May p. 23.
Animal nutrition, views on use of _____ and oil in; Dec. p. 47.
Argentina:
production and exports, 1962-1963; Aug. p. 54.
production and trends in 1963-64; Nov. p. 73.
production estimates revised; Feb. p. 66.
production 1963, and exports Jan.-Nov. 1963; July p. 45.
Calcium and phosphorus in _____ found entirely available to chickens; Dec. p. 46.
Canada:
containers of 2,000 pounds, _____ experimentally stored in; Mar. p. 50.
herring _____ production, 1963/64; June p. 37.
Chile:
factory for manufacturing _____ at Iquique dedicated as joint venture with South Africa; May p. 48.
factory, new _____, planned; Dec. p. 89.
industry trends; July p. 49, Oct. p. 53.
Denmark's supply and distribution, 1962-1963; July p. 52.

FISH MEAL

Exports and production for selected countries Jan.-May 1963-1964; Oct. p. 44.

Exports by principal exporting countries, 1963; Aug. p. 48.

German Federal Republic:

imports, 1962-1963; Aug. p. 62.
supply and distribution, 1962-1963 and 1964 forecast; Aug. p. 62.

Great Lakes region, plant being built in; Apr. p. 16.
Greece to experiment in using _____ as fish food; July p. 54.

Iceland's production and exports, Jan.-Dec. 1963; May p. 40.

Imports by principal importing countries, 1963; Aug. p. 48.

Imports, U.S.; Jan. pp. 18, 35, Feb. pp. 31, 32, 54, Mar. pp. 21, 30, Apr. pp. 20, 21, 36, May p. 24, Aug. pp. 29, 30, 31, Sept. p. 25, Oct. p. 28, Nov. p. 36, Dec. pp. 47, 48.

International Association of Fish Meal Manufacturers: conference, Peruvian, stresses quality; Jan. p. 39.
fifth annual conference in Vienna; Oct. p. 45, Dec. p. 69.

Ireland, factory for _____ planned for east coast of; Nov. p. 88.

Japan:

association organized; Nov. p. 96.
Atlantic, new firm plans trawling and _____ operations in; Jan. p. 59.

Bering Sea, eastern, _____ operation planned in; Mar. p. 60.

Bering Sea _____ production, 1964; Dec. p. 101.

Bering Sea, operations in; June p. 48.

imports from Peru approved; Apr. p. 61.

imports from South Africa; July p. 67.

imports, Government allots funds for; Jan. p. 58.
mixed feed, _____ and solubles used in, 1958-1963; Sept. p. 80.

prices; Aug. p. 74.

Lipids, total, in _____, improved rapid method for determining; July p. 1.

Maine, raw material for _____ and other industrial fishery products scarce in; Sept. p. 26.

Mexico's imports up sharply, Jan.-Sept. 1963; Jan. p. 64.

Netherlands prices, 1962-1963; Aug. p. 79.

Norway:

bulk _____, studies on handling; Nov. p. 104.

herring _____ quality control studies; Nov. p. 103.

herring _____ uniformity, mixing equipment designed to achieve; Nov. p. 104.

production and exports, Jan.-Dec. 1963; May p. 40.

Observations on use of _____ in animal feed; June p. 17.

Panama's production of _____ and oil in 1963; Apr. p. 68.

Peru:

exports:

agreement extended; Feb. p. 80.

by country of destination; June p. 54, Nov. p. 105.
estimated, 1963; Feb. p. 79.

forecast, 1964; Aug. p. 83.

Jan.-Mar. 1963-64; Oct. p. 76.

forecast, long-range, for _____ industry; Feb. p. 79.

industry trends; Jan. p. 67, June p. 54.

outlook for _____ industry; Nov. p. 105.

production and exports; May p. 40, July p. 72, Aug. p. 82.

FISH MEAL (cont.)

Peru (cont.):

- supply situation; Nov. p. 105.
trends, Jan. -July 1964 and outlook in Sept. 1964;
Nov. p. 105.
Poland's production, 1963; Sept. p. 91.
Production and exports for selected countries; Mar.
p. 35, Apr. p. 42, May p. 40, Aug. p. 47, Sept.
p. 49, Oct. p. 44, Nov. p. 71, Dec. p. 69.
South Africa Republic:
association contracts to sell to Japan; Jan. p. 69.
export quota for 1964 increased; Mar. p. 67.
production and exports, Jan. -Dec. 1963; May
p. 40.
production for 1964 sold or committed; Sept. p. 93.
production, 1962-1963; Nov. p. 110.
Spain's production and imports, 1962/63 and fore-
cast 1963/64; May p. 73.
Supply indicators for principal exporting and im-
porting countries, 1963; Aug. p. 48.
Trends in use of _____ in Maine and Massachusetts;
Feb. p. 30.
Use of _____ in Southern States, trend upward in;
Feb. p. 30.
Use of _____ in Texas area; Jan. p. 18.
U.S. production; Jan. pp. 16, 18, Feb. pp. 31, 32,
Mar. p. 21, Apr. pp. 20, 21, May p. 24, July
p. 19, Aug. pp. 29, 30, 31, 32, Sept. p. 25,
Oct. pp. 27, 28, Nov. pp. 35, 36, Dec.
pp. 47, 48.
U.S. production by areas; Jan. p. 16, Feb. p. 31,
Mar. p. 21, Apr. p. 20, May p. 24, June p. 18,
July p. 19, Sept. p. 25, Oct. p. 27, Nov. p. 35,
Dec. p. 47.
U. S. production, 1962-63; Apr. p. 20.
Wisconsin fish oil and _____ plant, ARA industrial
loan to help establish new; Oct. p. 82.
World production; Feb. p. 59, June p. 36, Aug.
p. 47, Oct. p. 44, Nov. p. 71, Dec. p. 69.
World trade, 1958-1963; Oct. p. 44.
Yugoslavia opens new plant at Zadar and 4 other
new plants planned; Dec. p. 115.

FISH MEAL MANUFACTURERS, INTERNATIONAL
ASSOCIATION OF

Fifth annual conference; Dec. p. 69.

FISH MIGRATION

- Flounder, blackback, studies aided by discovery
of distinctive group on Georges Bank; Oct. p. 30.
Patents awarded on new methods for tracking _____;
Aug. p. 39.

FISH OIL (also see OIL, MARINE-ANIMAL)

- Animal and poultry nutrition, use of fish meal and
_____ highly regarded in; May p. 23.
Animal nutrition, views on use of fish meal and
in; Dec. p. 47.
Argentina's production and exports, 1962-1963;
Aug. p. 54.
Canada's herring _____ production, 1963/64; June
p. 37.
Composition of _____ studied by fractional distil-
lation and gas-liquid chromatography; Jan. p. 11.
Exports, U. S.; Jan. p. 18, Feb. p. 31, Apr. p. 21, Aug.
p. 32, Sept. pp. 25, 26, Oct. p. 28, Nov. p. 36,
Dec. p. 47.
Low-cost _____, today small fish used to make;
Nov. p. 14.

FISH OIL

- Menhaden _____, uses for; Nov. p. 14.
Midwest and Atlantic coast producers' views on
market trends; Sept. p. 26.
Panama's production of _____ and fish meal in 1963;
Apr. p. 68.
Peru:
exports; Oct. p. 76.
exports by country of destination, Jan. 1-May 15,
1964; Nov. p. 106.
exports, estimated, 1963; Feb. p. 79.
supply and disposition, 1961-1963 and 1964
forecast; Aug. p. 83.
trends, Jan. -July 1964 and outlook in Sept. 1964;
Nov. p. 105.
Price trends; Sept. p. 26.
Uses for _____ promoted at annual paint industries
show; Jan. p. 15.
U. S. foreign trade; Sept. p. 26.
U. S. industry outlook; Sept. p. 27.
U. S. production; Jan. pp. 16, 18, Feb. p. 31, Mar.
p. 21, Apr. pp. 20, 21, May p. 24, July p. 19,
Aug. pp. 30, 31, 32, Sept. p. 25, Oct. pp. 27,
28, Nov. pp. 35, 36, Dec. pp. 47, 48.
U. S. production and use; Sept. p. 26.
U. S. production by areas; Jan. p. 16, Feb. p. 31,
Mar. p. 21, Apr. p. 20, May p. 24, June p. 18,
July p. 19, Sept. p. 25, Oct. p. 27, Nov. p. 35,
Dec. p. 47.
U. S. production forecast for 1964; Nov. p. 37.
U. S. trends in supply, disposition, and prices,
1946-1964; Sept. p. 26.
World exports, 1963; Sept. p. 50.
World production, 1963; Oct. p. 46.

FISH PASSAGE

- Flume, new fish behavioral, built in Pacific North-
west; Sept. p. 38.
Salmon escapement aided by brief industrial plant
shutdown at Willamette Falls, Oregon; Oct. p. 33.

FISH PORTIONS

- U.S. production, 1963; July p. 35.
U.S. production, quarterly data; Jan. p. 32, Apr.
p. 34, Sept. p. 42, Oct. p. 40.

FISH PROTEIN CONCENTRATE

- Canadians study ways of producing _____; Mar. p. 50.

FISH REDUCTION

- German _____ method, new, developments on;
Mar. p. 53.

FISH SAUSAGE

- Iceland produces first _____; Nov. p. 88.
Japanese _____ production; June p. 49, July p. 66.

FISH 'N SEAFOOD PARADE

- Promotion in Oct. for _____; Oct. p. 106.

FISH SOLUBLES

- Imports, U.S.; Jan. p. 18, Feb. pp. 31, 32, Mar.
p. 21, Apr. pp. 20, 21, May p. 24, Aug. pp. 29,
30, 31, Sept. p. 25, Oct. p. 28, Nov. p. 36,
Dec. pp. 47, 48.
Japanese use of fish meal and _____ in mixed feeds,
1958-1963; Sept. p. 80.

FISH SOLUBLES (cont.)

- U. S. production; Jan. pp. 16, 18, Feb. pp. 31, 32, Mar. p. 21, Apr. pp. 20, 21, May p. 24, July p. 19, Aug. pp. 29, 30, 31, 32, Sept. p. 25, Oct. pp. 27, 28, 40, Nov. pp. 35, 36, Dec. pp. 47, 48.
- U. S. production by areas; Jan. p. 16, Feb. p. 31, Mar. p. 21, Apr. p. 20, May p. 24, June p. 18, July p. 18, Sept. p. 25, Oct. p. 27, Nov. p. 35, Dec. p. 47.
- U. S. production, 1962-63; Apr. p. 20.

FISH STICKS

- Norwegian firm to establish _____ plant in New Bedford, Mass.; Apr. p. 67.
- U. S. production, 1963; July p. 35.
- U. S. production, quarterly data; Jan. p. 32, Apr. p. 34, Sept. p. 42, Oct. p. 40.

FISHY FLAVORS

- Chemistry of volatile components in fishery products studied by Gloucester Technological Laboratory; May p. 17.

FISHY ODORS

- Chemistry of volatile components in fishery products studied by Gloucester Technological Laboratory; May p. 17.

FLATFISH

- Pacific, North, migrations of halibut and sole; Sept. p. 19.

FLORIDA

- Bottomfish explorations off northern _____ continued; Aug. p. 38.
- Marine laboratory building, new, planned at University of Miami; July p. 27.
- Scallop distribution survey off _____; Feb. p. 47.
- Shrimp:
- juvenile density and distribution in Florida Bay; Dec. p. 43.
 - pink:
 - juvenile phase of the life history in Everglades; Mar. p. 19, July p. 16.
 - migration study off _____, seabed drifters released in; Dec. p. 60. - royal-red:
 - Florida east coast, fishing good in June off; Sept. p. 39.
- University of Miami receives new research grants for studies in marine biology; July p. 26.

FLOUNDER

- Bering Sea, Soviet _____ fishing activities in; July p. 7.
- Blackback:
- studies aided by discovery of distinctive group on Georges Bank; Oct. p. 30.
 - tagging in North Atlantic; June p. 21.
 - tagging program off Massachusetts; Aug. p. 34.

FOOD

- Radiation and _____; June p. 89, July p. 38.
- World oceans can yield more _____; Apr. p. 42.

FOOD ADDITIVES

- Sodium nitrate and sodium nitrite in smoked cured sablefish, petition to Food and Drug Administration to use; Dec. p. 117.

FOOD AND AGRICULTURE ORGANIZATION

- Antarctic fin-whale catch, _____ appeals for voluntary limits on; Jan. p. 41.
- Business Decisions in Fishery Industries, _____ sponsors meeting on; Dec. p. 73.
- Canadian fish catch, 1962; Mar. p. 41.
- Caribbean fisheries development project; May p. 41.
- Chilean Fisheries Development Institute, sonar expert assigned by _____ to; June p. 38.
- Codex Alimentarius Commission:
- Second Session meets in Geneva; Dec. p. 75.
 - Worldwide Expert Committee on Food Hygiene meets in Washington; Dec. p. 76.
- Conference, Twelfth Session of the _____; Feb. p. 61.
- Director-General re-elected at November 1963 conference; Mar. p. 36.
- Dolphin and porpoise ravage fishermen's catch and gear; May p. 103.
- Fisheries development in Bay of Bengal, Arabian Sea, and Persian Gulf proposed; Mar. p. 37.
- Fisheries Division director appointed, new; Apr. p. 44.
- Fisheries Division director retires; Apr. p. 44.
- Fresh fish, international symposium on how to keep; Aug. p. 48.
- Harvesting world's oceans, greater international discipline urged in; Sept. p. 51.
- Indo-Pacific Fisheries Council of _____ holds 11th session; Dec. p. 73.
- Indo-Pacific fisheries development seminar; July p. 39.
- International Atomic Energy Agency requests research by _____ on control of harmful organisms in foods and animal feeds; Sept. p. 53.
- International trade standards for fishery products, experts seek worldwide; Apr. p. 44.
- Japan's views on 43rd _____ Council; Dec. p. 103.
- Marine resources, _____ Director-General urges plans for exploration of; Apr. p. 43.
- Marine Resources Research Advisory Committee meets in Rome; Apr. p. 42.
- Motors, outboard, increase fishing efficiency of traditional craft in six countries under _____ Freedom From Hunger Campaign project; July p. 40.
- Members or associate members, new countries admitted as; Mar. p. 36.
- Sanitary regulations in international traffic in animals and animal products, need for; Dec. p. 74.
- South Korea, fishery training center to be built in; Nov. p. 71.
- Sweden helps Pakistan mechanize small fishing craft under _____ program; July p. 41.
- Tuna:
- Atlantic Ocean resource:
 - Japanese views on proposals advanced for conservation of; Jan. p. 56.
 - report considered by 43rd Session; Dec. p. 73.
 - working party meets in Rome; Jan. p. 38.
 - research meeting held in Rome; Sept. p. 50. - world catch, 1962; Mar. p. 36.
- Vessel, small, structural research, Denmark plans meeting on; Sept. p. 64.
- Whaling outlook for 1963/64 Antarctic season; Apr. p. 49.
- World fish catch by species groups, 1962; Mar. p. 36.
- World fisheries development role of _____, 43rd Session sets up ad hoc committee to study; Dec. p. 73.
- World fishery landings estimated by _____; Dec. p. 70.

FOOD AND AGRICULTURE ORGANIZATION (cont.)

- World fish resources must be more wisely managed; Apr. p. 43.
- World Food Program, fishery products in the; Feb. p. 60.
- World oceans can yield more food; Apr. p. 42.
- World trade in fishery products model standard worked out by _____ fisheries group; May p. 40.

FOOD AND DRUG ADMINISTRATION, U. S.

- Canned foods, questions frequently asked about; May p. 102.
- Cans:
 - metal food container as the regulatory official sees it; June p. 88.
- Food additives:
 - kelp regulation, new; July p. 81.
 - sodium nitrate and sodium nitrite in smoked cured sablefish; Dec. p. 117.
- Irradiation, new food additive regulation concerning packaging materials for foods preserved by; Oct. p. 84.
- Pure food and drug law, annual conference to high-light understanding of; Dec. p. 117.
- Shrimp, frozen raw breaded, standards of identity, public hearing on; Feb. p. 88, Apr. p. 77.
- Tuna, canned, standard of identity amended; Apr. p. 77, June p. 62, Aug. p. 90.

FOOD HYGIENE

- Codex Alimentarius Commission Worldwide Expert Committee on _____ meets in Washington; Dec. p. 76.

FOREIGN FISHERY REPORTING

- U. S. fishery attache program in foreign countries; Nov. p. 29.

FOREIGN TRADE (also see EXPORTS; IMPORTS)

- International trade:
 - standards for fishery products, experts seek world-wide; Apr. p. 44.
- U. S. Bureau of the Census export classification, time extended for comments on; Sept. p. 100.
- Exports of fishery products by country, 1962, U. S. trends in; Feb. p. 54.
- Hong Kong's _____ in fishery products, 1961 and 1962; Jan. p. 51.
- Imports, fishery, by country, 1962, trends in U. S.; Feb. p. 56.
- Processed edible fishery products, U. S. _____ in; Jan. p. 34, Apr. p. 37, May p. 35, June p. 31, Aug. p. 43, Sept. p. 45, Oct. p. 41, Dec. p. 66.

FRACTIONAL DISTILLATION

- Fish oil composition studied by _____ and gas-liquid chromatography; Jan. p. 11.

FRANCE

- Factoryships, fishery, shipyards receive orders from South Korea for trawlers and from Soviets for; Nov. p. 83.
- Fish eggs supplied to _____ by Canada from Quebec hatcheries; Dec. p. 88.
- Herring imports from other EEC countries subject to minimum price regulations; Dec. p. 92.
- Irish fishing company, new, Japanese and _____ interests to aid; Feb. p. 70.

FRANCE

- Seals, harp and hood, _____ and Denmark ratify International Convention for the Northwest Atlantic Fisheries protocol concerning; Dec. p. 79.
- Trawling base in Ireland, joint Japanese-Irish-French; Mar. p. 55.
- Tuna:
 - canned exports, industry urged to increase; May p. 51.
 - Moroccan-French joint fishing exploration planned; Nov. p. 102.
- Vessels, fishing, for Korea, Italian-French contract modified to build; Apr. p. 62.
- Vessel specifications of fishing fleet ordered from _____ by Republic of Korea; Dec. p. 105.

FRASER RIVER

- Salmon, sockeye, losses investigated; June p. 24.

FREEZE-DRIED FISHERY PRODUCTS

- Defense Department purchases; Oct. p. 25, Nov. p. 28, Dec. p. 38.
- Fish squares, freeze-dried, purchased by Defense Department; Mar. p. 16.

FREEZING

- Liquid nitrogen to freeze fish, studies of; Nov. p. 30.
- Quick-_____, multi-immersion; Feb. p. 33.
- Technical symposium on _____ of fishery products; Feb. p. 42.

FRENCH GUIANA

- Shrimp:
 - Mexican vessels to fish for _____; June p. 51.
 - U. S. firms in _____ continue to expand; Jan. p. 50.

FRESH AND FROZEN FISHERY PRODUCTS

- Defense Department purchases; Jan. p. 9, Mar. p. 16, Apr. p. 14, May p. 16, June p. 14, July p. 11, Aug. p. 20, Oct. pp. 23, 24, Nov. p. 28, Dec. p. 37.

FRESH FISH

- Food and Agriculture Organization, international symposium on how to keep _____; Aug. p. 48.

FRESH-WATER FISH

- El Salvador commercial fishery for _____; Dec. p. 92.

FROZEN FISH

- Japanese establish national program to promote sale of _____; July p. 65.
- Shelf life of _____ studied; Nov. p. 53.
- Thawing unit for _____, new British; Mar. p. 73.

FULTON FISH MARKET

- Relocation of New York City _____ recommended; Nov. p. 40.

FUNDY, BAY OF

- Canada opens section of _____ to herring seiners; Dec. p. 88.

FUR SEAL(S)

- Alaska:
 - prices for skins:
 - fall 1964 auction; Dec. p. 40.
 - spring 1964 auction; June p. 15.

FUR SEAL(S) (cont.)

- Alaska (cont.):
 skins, proposals for processing, promoting, and selling; June p. 63.
 Distribution and movements; June p. 61.
 Interior, U. S. Department of, contract negotiations for processing _____; Sept. p. 20.
 North Pacific _____ Commission convenes in Moscow for annual meeting; Apr. p. 48.
 North Pacific _____ Convention:
 Japan ratifies Protocol amending interim convention on conservation of _____; July p. 42.
 Soviet Union ratifies Protocol amending interim convention; June p. 35.
 United States ratifies Protocol amending interim convention; May p. 44.
 Pribilof Islands skin harvest, 1964; Nov. p. 30.
 Tagging techniques, modified, suggested to prevent excess mortality; Aug. p. 22.

GAME FISH

- Tagging program by Woods Hole Oceanographic Institution, 1963 report on; Feb. p. 52.

GAS-LIQUID CHROMATOGRAPHY

- Fish oil composition studied by fractional distillation and _____; Jan. p. 11.

GATT (see GENERAL AGREEMENT ON TARIFFS AND TRADE)

GEAR

- Alaska, southeastern, registered fishing vessels, _____ count for; Aug. p. 13.
 Electrical trawling tests continued; June p. 20.
 Experiments in _____ marking by M/V "John R. Manning" in Kodiak Island vicinity; Dec. p. 23.
 Float for fishing line patented; Oct. p. 28.
 Gill net, monofilament and multifilament, comparison of salmon catches in; Oct. p. 1.
 Harvesting fish from rice farm ponds, _____ tested for; Jan. p. 10, Aug. p. 21.
 Japan's compensation law for loss of fishing _____ and catch revised; Oct. p. 71.
 Labor-saving _____ tested in rice-farm fish ponds; Jan. p. 10, Aug. p. 21.
 Long-line:
 Japanese test new _____ off West African Coast; Feb. p. 73.
 modified _____ to catch tuna in Australian inshore waters; Aug. p. 54.
 swordfish vessel "Chilmark Sword," fishing methods and equipment of; Dec. p. 64.
 Midwater trawl:
 Pacific Coast hake fishery, tests successful in; Aug. p. 23.
 Sweden's experimental pair-trawling for large herring shows promise; Jan. p. 69.
 Ocean-bottom studies, new instrument effective aid in; Sept. p. 35.
 Purse seine-type net hauler, new, developed by Greeks; Jan. p. 51.
 Research on fishing _____ as reported at World Fishing Gear Congress; May p. 1.
 Sinkers, fishing, method of attaching; Feb. p. 33.
 Soviet and U. S. delegations discuss fishing _____ conflicts in northeastern Pacific Ocean; Sept. p. 51.
 Suction-pump fishing in Japan; May p. 65, Oct. p. 73.

GEAR

- Traps, slat, tested for harvesting fish ponds; Feb. p. 17.
 Trawling _____, deep-water, developed by Soviets; Oct. p. 80.
 Trawl(s):
 "Cobb" pelagic type tested for effectiveness in catching winter herring; Jan. p. 22.
 drum-trawl fishing, new South African vessel equipped for; Sept. p. 95.
 electrical tests continued by M/V "Delaware"; Jan. p. 21.
 pelagic type development program; Oct. p. 31.
 shrimp electrical _____ studies continued (M/V "George M. Bowers"); Jan. p. 13, Feb. p. 22, Apr. p. 18, July p. 12.
 shrimp gear fish-catching efficiency compared with that of eastern otter-trawl (M/V "Commando" cruise 11); Nov. p. 46.
 United Kingdom's _____ research by (Hull) Industrial Development Unit; Aug. p. 87.
 Unloading fishing vessels, "airlift" pump being developed by Canadians for; Mar. p. 48.
 World Fishing Gear Congress, second; May p. 1.

GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT)

- Hearings held on some fishery products preliminary to 1964 negotiations; Feb. p. 89.
 Twenty-first Session held at Geneva; May p. 41.

GEOPHYSICS

- Earth's gravitation measured by M/V "Charles H. Gilbert"; Dec. p. 35.

GEORGE B. KELEZ

- Salmon research in North Pacific Ocean and Bering Sea; Mar. p. 22.

GEORGES BANK

- Foreign fishing activities on _____, October 1964; Dec. p. 49.
 Haddock abundance on _____ holding up despite heavier fishing; July p. 23.
 Northern edge of _____ surveyed by M/V "Albatross IV" (cruise 64-6); July p. 23.
 Scallops, sea, population survey on _____ continued by M/V "Albatross IV"; Dec. p. 51.
 Whiting abundance on _____ holding up despite heavier fishing; July p. 23.

GEORGIA

- Bottomfish explorations off _____ continued; Aug. p. 38.
 Fishery explorations for commercial species off _____ continued by M/V "Silver Bay"; Mar. p. 25.

GERMAN DEMOCRATIC REPUBLIC

- Atlantic fisheries, fishing fleet planned by _____ for; Dec. p. 93.
 Research vessel, fishery, participates in joint project with U.S.S.R.; Jan. p. 73.
 Soviets contract with _____ for trawlers; Dec. p. 94.
 Tunisian fisheries trade with _____; June p. 58.

GERMAN FEDERAL REPUBLIC

- "Caviar" plant planned for _____ by Danish fishery firm; May p. 49.

GERMAN FEDERAL REPUBLIC (cont.)

- European Economic Community, tariff quotas on some fishery products granted to _____ by; Apr. p. 40.
 Factoryships built by West German shipyard for Soviets, specifications of; Feb. p. 84.
 Fish-gutting machine, new, offered by _____ firm; Nov. p. 83.
 Fish meal and marine oil industry trends, 1963; Aug. p. 62.
 Fish reduction method, new, developments on; Mar. p. 53.
 Marine oils foreign trade, 1962-1963; Aug. p. 62.
 Oceanographic research vessel, new, launched in _____; Aug. p. 63.
 Processing plant, fisheries, opened in _____ by Danish firm; Oct. p. 55.
 Promotional materials on fish planned by _____ under OECD; Oct. p. 48.
 Research vessel, new, "Meteor II"; Feb. p. 68.
 Research vessel "Walther Herwig" commissioned; July p. 53.
 Submarine, one-man fiberglass, developed in _____; Aug. p. 63.

GHANA

- Fisheries trends, third quarter 1963; Feb. p. 68.
 Fish processing plants, contract with Soviets signed for building; Jan. p. 50.
 Government control of two private fishing firms in _____; Sept. p. 66.
 Import duty on fish affects Japanese and Russian trawling in Atlantic Ocean; Mar. p. 54.
 Imports, fishery, placed under the control of state corporations; Feb. p. 68.
 Japanese fish exporters affected by duty imposed by _____; Jan. p. 58.
 Japanese trawlers to be exported to _____; May p. 61.
 Landings, fishery, up sharply in 1963; Aug. p. 64.
 Norwegian fishing vessel construction for _____ and Morocco; June p. 52.
 Outlook and plans for fishing industry expansion; Aug. p. 63.
 Purse-seine vessels, two, returned by _____ to Britain have been acquired by Chilean company; June p. 61.
 Soviet Union, fisheries agreement signed with; Mar. p. 54.
 Technical fisheries assistance by Soviets; Nov. p. 84.
 Technical fishery service agreement made with Japan; Oct. p. 57.
 Trawler, large, built by Japan for _____; Dec. p. 94.
 Trawlers, deep-sea, domestic and foreign, fishing out of _____ ports; Jan. p. 50.
 Trawler, stern, first Norwegian built, launched; Aug. p. 65.
 Tuna purse seine fleet to be operated off coast of West Africa by Japanese firm; Aug. p. 70.

GILL NETS

- Salmon:
 catches in monofilament and multifilament _____, comparison of; Oct. p. 1, Dec. p. 68.
 Japanese North Pacific fishery uses monofilament _____; May p. 61.

GRANTS

- National Science Foundation awards _____ to Mississippi State Gulf Coast Research Laboratory; Aug. p. 34.

GREAT BEAR LAKE

- Canada's fishery resources of _____ surveyed; Mar. p. 47.

GREAT LAKES

- Chub, preliminary report on experimental smoking of; Nov. p. 1.
 Commercial Fisheries Research and Development Act: aid under new fisheries law extended to _____ area; Oct. p. 25.
 fishery failure due to resource disaster in _____ area, determination by Secretary of Interior of; Dec. p. 117.
 Fishery firms, assistance for economic injury suffered by; Apr. p. 78.
 Fish meal plant being built in _____ region; Apr. p. 16.
 Lake Erie:
 fisheries explorations, May-Nov. 1960; Apr. p. 1.
 yellow perch landings down sharply in 1964; Nov. p. 33.
 Lake Huron, Great Lakes Institute of the University of Toronto establishes new research station on; Aug. p. 58.
 Lake Michigan:
 alewife and chub stocks, seasonal distribution and abundance studies of; June p. 15, Dec. p. 40.
 yellow perch, seasonal distribution and abundance studies of; Dec. p. 40.
 Lake trout hatchery and planting program in _____; Apr. p. 17.
 Landings, fisheries; Feb. p. 17, Oct. p. 25.
 Midwest Federated Fisheries Council organized; May p. 17.
 Smoked fish processing studies, status report on; Feb. p. 44, Sept. p. 39.
 Sport fish survey in Michigan _____ waters; July p. 20.
 Wisconsin _____ fishery landings, 1963; May p. 39.
 Yellow perch filleting machine now in operation in _____; Apr. p. 16.

GREAT LAKES FISHERIES EXPLORATIONS AND GEAR RESEARCH

- Lake Michigan:
 alewife and chub stocks, seasonal distribution and abundance studies of (M/V "Kaho"); May p. 21, June p. 15, Aug. pp. 23, 25, Nov. p. 33, Dec. p. 40.
 trawling investigations in northern area and Green Bay continued; Feb. p. 17.
 trawling investigations in southern area; May p. 18.
 yellow perch, seasonal distribution and abundance studies of (M/V "Kaho"); Nov. p. 33, Dec. p. 40.
 Lake Superior:
 fishery explorations by "M/V Kaho"; Sept. p. 20.
 lake herring, trawl and lampara seine tested in eastern area for catching; Feb. p. 20.
 trawling commercial species, more effective methods studied of (M/V "Kaho"); Aug. p. 25, Nov. p. 30.

GREAT LAKES FISHERY COMMISSION

- Lake trout fishing trends in Lake Superior; Apr. p. 45.
 Meeting, annual, held at Ann Arbor, Mich.; Sept. p. 52.
 Meeting, interim, held in Ottawa; Feb. p. 62.

GREAT LAKES FISHERY INVESTIGATIONS

- Lake Erie yellow perch landings down sharply in 1964; Nov. p. 33.
 Lake Michigan:
 chubs and associated species, depth distribution studies continued on (M/V "Cisco" cruise 11); Jan. p. 11.
 lampicide treatment of tributary streams; Dec. p. 42.
 Lake Superior:
 lake trout distribution studies continued (M/V "Siscowet" cruise 9); Jan. p. 11.
 whitefish spawning survey (M/V "Siscowet" cruise 10); Mar. p. 17.
 Sea lamprey control in Lake Superior and Lake Michigan; Aug. p. 28, Sept. p. 21.

GREECE

- Atlantic exploratory trawling project; Dec. p. 94.
 Fisheries trends, Jan. 1963; Feb. p. 69.
 Fishery cooperative, Greek-Turkish, proposed; Jan. p. 38.
 Fish meal as fish food experiment; July p. 54.
 Freezer-trawler landings and trends; Feb. p. 69, Mar. p. 54, May p. 51, July p. 53, Aug. p. 65, Nov. p. 84, Dec. p. 94.
 Landings, fishery, 1962-1963; June p. 40.
 Pearl culture industry possible; Feb. p. 69.
 Purse seine-type net hauler, new, developed by _____; Jan. p. 51.
 Sponge fishing, 1963; Feb. p. 69.
 Trawler, Japanese, sold to Greek firm; Oct. p. 72.

GREENLAND

- Faroe Islands fishing rights in _____ waters; Oct. p. 57, Dec. p. 94.
 Fishing limits, 12-mile, modified to continue certain historic fishing rights of other countries; Nov. p. 84.
 Halibut fishery trends, 1963; Nov. p. 85.
 Ocean catfish fishery, 1963; Nov. p. 87.
 Salmon, Atlantic, commercial fishery off _____; Dec. p. 82.
 Shrimp fishery trends, 1963-64; Nov. p. 85.

GROSS, GEORGE B.

- Fishery attache _____ arrives at Abidjan, Ivory Coast; Mar. p. 77.

GROUND FISH

- Canada's North Pacific resources studied by scientists; Mar. p. 46.
 Cod and haddock fisheries in Northwest Atlantic, status discussed at ICNAF meeting of; Aug. p. 50.
 Fillets:
 import tariff-rate quota for 1964; Apr. p. 78.
 Tariff Commission hearings on exclusion of _____ from tariff modification; Feb. p. 91.
 trade-agreement negotiations, _____ reserved by U. S. Tariff Commission from; June p. 64.
 Icelandic fishermen protest ex-vessel prices; Apr. p. 58.
 North Atlantic _____ distribution and abundance studies; Feb. p. 36, Apr. p. 23, Nov. p. 44.

GUATEMALA

- Commercial fishery limited in 1963 because of lack of vessels; Mar. p. 55.

GUATEMALA

- Shrimp:
 catch, 1962-1963; June p. 40.
 Champerico industry trends; May p. 52.
 fishing investment opportunity; Oct. p. 58.
 Japanese-Guatemalan fishing venture trends; Jan. p. 51, Oct. p. 58.

GULF EXPLORATORY FISHERY PROGRAM

- Caribbean coast of Colombia, trawling survey off (M/V "Oregon" cruise 92); Sept. p. 22.
 Menhaden investigations in the Gulf of Mexico continued (M/V "Oregon"); Apr. p. 17, May p. 21, July p. 13.
 Menhaden off-season population survey (airplane spotting flight 1); Feb. p. 26.
 Shrimp:
 gear studies continued (M/V "George M. Bowers"); Jan. p. 13, Feb. p. 22, Apr. p. 18, July p. 12.
 Gulf of Mexico investigations (M/V "Oregon"); Apr. p. 17, May p. 21, July p. 13.
 royal-red seasonal distribution survey continued (M/V "Oregon" cruise 88); Feb. p. 24.

GULF FISHERY INVESTIGATIONS

- Biological studies, July-Sept. 1964; Dec. p. 43.
 Bottomfish:
 commercial catch sampling, Jan.-Mar. 1964; July p. 18.
 distribution and abundance in western Gulf, Jan.-Mar. 1964; July p. 18.
 life histories of Central Gulf fish; Mar. p. 20, July p. 18, Dec. p. 45.
 Chemistry and sea water laboratory services, Oct.-Dec. 1963; Mar. p. 20.
 Contract research, Oct.-Dec. 1963; Mar. p. 19.
 Estuarine program; Mar. p. 19, Dec. p. 45.
 Florida Bay ecology studies; Dec. p. 43.
 Industrial fishery program, Oct.-Dec. 1963; Mar. p. 20, July p. 18, Dec. p. 45.
 Oyster, suspended, growth experiments; Mar. p. 20.
 Shrimp:
 adult and larval seasonal distribution patterns in Aransas Pass, Jan.-Mar. 1964; July p. 16.
 bait fishery and postlarval abundance surveys; July p. 16, Dec. p. 43.
 biology program, July-Sept. 1964; Dec. p. 43.
 commercial catch sampling; July p. 16, Dec. p. 44.
 distribution studies; Jan. p. 14, Feb. p. 27, Apr. p. 19, May pp. 22, 23, July p. 14, Aug. p. 28, Sept. p. 23, Oct. p. 26, Nov. p. 34, Dec. p. 45.
 fishery program, Oct.-Dec. 1963; Mar. p. 17.
 larvae distribution and abundance studies; July p. 15, Dec. p. 43.
 migrations, growth, and mortality of brown and white; July p. 17, Dec. p. 44.
 pink:
 juvenile phase of the life history; July p. 16, Dec. p. 43.
 larvae abundance and distribution on Tortugas grounds, Jan.-Mar. 1964; July p. 16.
 marking study on Tortugas grounds; May p. 22.
 migrations, growth, and mortality, Jan.-Mar. 1964; July p. 15.
 population dynamics studies; July p. 17, Dec. pp. 43, 44.
 postlarval abundance in Mississippi Sound and adjacent waters; July p. 17, Dec. p. 44.
 postlarval occurrence, distribution, and abundance in Vermilion Bay (La.), Jan.-Mar. 1964; July p. 17.

GULF FISHERY INVESTIGATIONS (cont.)

Western Gulf estuaries, ecology of, Jan.-Mar. 1964; July p. 17.

GULF OF ALASKA

Japanese exploratory fishing in _____; July p. 8.
Salmon in _____, Canada studies; Mar. p. 46.

GULF OF GUINEA

Bottomfish, Japanese report poor fishing in _____ of; June p. 45.
EQUALANT III, research vessel "Geronimo" participates in; Apr. p. 47, July p. 24, Oct. p. 31, Nov. p. 57.
Trawling survey in _____; Aug. p. 1.

GULF OF MEXICO

Bottomfish life histories, central _____; Dec. p. 45.
Coast Guard hearings on lights and fog signals on offshore platforms in the _____; May p. 79.
Ecology of western _____ estuaries; Mar. p. 19, July p. 17, Dec. p. 45.
Fishery products, more, used in U. S. in 1963; May p. 34.
Shrimp distribution studies in _____ by M/V "Gus III"; Jan. p. 14, Feb. p. 27, Apr. p. 19, May pp. 22, 23, July p. 14, Aug. p. 28, Sept. p. 23, Oct. p. 26, Nov. p. 34, Dec. p. 45.
Soviet fishing activity in _____ and South Atlantic; Aug. p. 38.
Storm warning buoys for _____; Nov. p. 65.

GULF STATES

Crab, blue, industry of _____--an industry in transition; Dec. p. 1.
Landings, fisheries, 1962; Feb. p. 28.

GULF STATES MARINE FISHERIES COMMISSION

Annual meeting in Brownsville, Tex.; Nov. p. 35.

HADDOCK

Atlantic, North, collections; June p. 21.
Georges Bank, abundance of _____ and whiting holding up despite heavier fishing on; July p. 23.
Recipe--baked a la maritimes; June p. 71.
Spawning and maturity investigated by M/V "Albatross IV"; June p. 21.

HAITI, REPUBLIC OF

Explorations, preliminary fishery, off _____ by M/V "Silver Bay"; Jan. p. 29.

HAKE

Canned product, Japanese firm experimenting with; Dec. p. 103.
Midwater trawl tests in Pacific Coast _____ fishery successful; Aug. p. 23.
North Pacific distribution and abundance study; Oct. p. 30, Dec. p. 52.

HALIBUT

Alaska:
Ketchikan ex-vessel prices rise in June; Sept. p. 12.
Kodiak plant processing operations following earthquake; Nov. p. 17.
landings at Ketchikan, first seasonal; July p. 8.
Baked _____ surprise; Apr. outside back cover.
Barents Sea, Soviets find _____ concentrations in; Oct. p. 80.

HALIBUT

Bering Sea:
catch in Area 3B North Triangle, Mar. 28, 1964; May p. 43.
fishing in Area 3B North Triangle ended Oct. 15, 1963; Feb. p. 64.
Japanese fishing for _____ abandoned; Sept. p. 11.
Greenland fishery trends, 1963; Nov. p. 85.
International Pacific Halibut Commission:
fishing restrictions proposed; Aug. p. 49.
special meeting held in June 1964; July p. 42.
Japan:
Bering Sea long-line fishery; Sept. p. 11.
Bering Sea Triangle Area, vessels licensed for; May p. 58.
landings and exports, 1958-63; Nov. p. 91.
mothership returns; Aug. p. 70.
North Pacific:
fishery regulations; Jan. p. 75.
fishing ended Nov. 30, 1963; Feb. p. 64.
fishing in area 3A ended Aug. 19, 1964; Oct. p. 46.
fishing season, 1964, for _____ in Area 2 closes; Dec. p. 23.
landings, 1964 season to July 20, 1964; Sept. p. 24.
migrations of _____; Sept. p. 19.
quality evaluation of ex-vessel landings continued; Sept. p. 24.
quota for Triangle area recommended, reduction of; Jan. p. 41.
regulations for 1964; May p. 43.
Steaks from Japan not being sold at less than fair value; Feb. p. 91.

HANDLING

Fish boxed at sea, British report on; Nov. p. 114.

HATCHERIES

California _____, fish losses attributed to food problem in; Dec. p. 30.
Re-use of _____ water, studies on; Dec. p. 38.
Salmon and trout restocking program in Quebec; Dec. p. 88.
Shark, dogfish, Washington State firm to process fish feed from; July p. 37.

HATCHERY

Oregon's Metolius River salmon _____ closes and experimental station opens; Nov. p. 51.

HAWAII

Earth's gravitation measured by M/V "Charles H. Gilbert" in collaboration with University; Dec. p. 35.
Fishery products, more, used in U. S. in 1963; May p. 34.
Landings, commercial fishery; Feb. p. 29, June p. 16.
Oceanic eddies southwest of _____ Islands studied by M/V "Charles H. Gilbert"; Aug. p. 18.
Tuna, skipjack, landings; Jan. p. 15, Feb. p. 28, Mar. p. 21, Apr. p. 19, May p. 23.

HEALTH, EDUCATION, AND WELFARE, DEPARTMENT OF (also see FOOD AND DRUG ADMINISTRATION; PUBLIC HEALTH SERVICE)

Mississippi River fish kill, _____ finds that the pesticide endrin was the cause of; Sept. p. 37.

HERBICIDE(S)

Milfoil control, conference on; May p. 30.

HERRING (also see LAKE HERRING)

Alaska:

bait fishing at Ketchikan in Jan. 1964; Apr. p. 9.
growth and mortality rates analyzed; Apr. p. 10.
landings for 1963; Apr. p. 9.
oil production during Aug.; Nov. p. 17.
roe being readied for shipment to Japan; Aug. p. 13.
roe-on-kelp harvest ends in Apr.; July p. 8.
southeast area catch moderate; Dec. p. 24.

Canada:

Bay of Fundy section reopened to seiners; Dec. p. 88.
British Columbia landings and products, 1963/64; June p. 37.

Denmark:

catch forecasts; Apr. p. 53.
marketing problems; Apr. p. 53.
France establishes minimum price regulations for imports from other EEC countries; Dec. p. 93.
Ghana landings down sharply in 1963; Aug. p. 64.
"Herring salad" imports dutiable at 20 percent ad valorem; Apr. p. 79.

Iceland:

fisheries trends as of July 13, 1964; Sept. p. 67.
prices; May p. 52, Sept. p. 68, Dec. p. 95.

Maine landings, Jan.-Aug. 1964; Dec. p. 64.

Norway:

catch, 1964; Dec. p. 108.
fisheries trends; May p. 70, June p. 52.
north coast, big run off; May p. 69.
prices; Dec. p. 109.
utilization; Dec. p. 108.
winter fishery, 1964; Dec. p. 108.
Pelagic trawl tested for effectiveness in catching winter _____; Jan. p. 22.
Sweden's experimental midwater pair-trawling for large _____ shows promise; Jan. p. 69.

HISPANIOLA

Explorations, fishery, preliminary, off _____ by M/V "Silver Bay"; Jan. p. 29.

HONDURAS

Fisheries trends, first quarter 1964; Aug. p. 65.
Investment opportunity in fisheries; Apr. p. 58.

HONG KONG

Foreign trade in fishery products, 1961 and 1962; Jan. p. 51.

ICELAND

Exports, fishery, to the Soviet Bloc, 1963; June p. 41.
Exports of fishery products; Feb. p. 69, July p. 55, Sept. p. 68, Nov. p. 87.
Fishing industry, government passes bill to aid; Apr. p. 58.
Fish meal production and exports; May p. 40, Oct. p. 44.
Fish sausages, first, produced in _____; Nov. p. 88.
Frozen fish to U.S.S.R., _____ sells; May p. 52.
Groundfish ex-vessel prices, fishermen protest; Apr. p. 58.
Harp and hood seals, _____ ratifies protocol amendment concerning; June p. 35.
Herring:
fisheries trends as of July 13, 1964; Sept. p. 67.
prices; May p. 52, Sept. p. 68, Dec. p. 95.

ICELAND

Landings, fishery:

principal species; Jan. p. 52, Feb. p. 69, May p. 53, June p. 42, July pp. 54, 55, Sept. p. 69, Oct. p. 58, Nov. p. 87, Dec. p. 95.
utilization; Jan. p. 52, Feb. p. 69, May p. 53, June p. 41, July p. 55, Sept. p. 69, Oct. p. 59, Nov. p. 88, Dec. p. 96.

Lobster:

exports increased; Nov. p. 88.
new type product available; Nov. p. 88.
Nordic Fisheries Conference, ninth, held in _____; Sept. p. 54.
Salmon farm, investment opportunity in; Oct. p. 58.
Vessels, fishing, delivered by British shipyard; July p. 56.

IDAHO

Federal funds allocated to _____ for fisheries program; Sept. p. 18.

IMPORTS

Airborne _____, U.S., of fishery products; Jan. p. 34, Mar. pp. 28, 29, Apr. p. 36, May p. 35, Sept. p. 46, Oct. p. 41, Nov. p. 63, Dec. p. 65.
Canned fish, Norwegian exports of; Mar. p. 66.
Danish exports of fishery products to the U. S.; Apr. p. 55, June p. 39, Sept. p. 62, Oct. p. 53.
Edible fishery products, processed; Mar. p. 31, Apr. p. 37, May p. 35, June p. 31, July p. 38, Aug. p. 43, Sept. p. 45, Oct. p. 41, Nov. p. 63, Dec. p. 66.
European Free Trade Association duties on certain fishery products reduced; Apr. p. 40.

Fish meal:

Peruvian exports by country of destination, Jan.-Sept. 1963; June p. 54.
U. S. _____; Jan. p. 18, Feb. pp. 31, 32, Mar. p. 21, Apr. pp. 20, 21, May p. 24, Aug. pp. 29, 30, 31, Sept. p. 25, Oct. p. 28, Nov. p. 36, Dec. pp. 47, 48.
U. S. _____ by Customs Districts; Jan. p. 35, Feb. p. 54, Mar. p. 30, Apr. p. 36.
Fish solubles, U. S. _____ of; Jan. p. 18, Feb. pp. 31, 32, Mar. p. 21, Apr. pp. 20, 21, May p. 24, Aug. pp. 29, 30, 31, Sept. p. 25, Oct. p. 28, Nov. p. 36, Dec. pp. 47, 48.

Groundfish fillet tariff-rate quota for 1964; Apr. p. 78.
"Herring salad" _____ dutiable at 20 percent ad valorem; Apr. p. 79.

Lobster, Iceland's, exports increased; Nov. p. 88.
Oysters, frozen, Japanese 1964 pack for export to U. S.; Aug. p. 74.

Pet food, Australia begins exporting to the U. S.; Nov. p. 79.

Shrimp:

Guatemalan exports to United States in 1962; Mar. p. 55.
U. S. _____; Jan. p. 29, Feb. p. 43, Apr. p. 32, June p. 27, Aug. p. 38, Oct. p. 37, Nov. p. 55, Dec. p. 61.
U. S. _____ from Viet-Nam, 1963; July p. 80.

Tuna

canned in brine:

Japan:

canners and exporters discuss drop in exports to U. S.; Oct. p. 63.
export quota and prices, reductions proposed for; Oct. p. 63.
export quota to U. S.; Jan. p. 54.
exports to U. S. by destination; Aug. p. 67.
exports to U. S., 1958-1963; June p. 44.

IMPORTS (cont.)

Tuna (cont.):

canned in brine (cont.):

Japan (cont.):

- sales to U. S.; Feb. p. 71, Mar. p. 57.
- U. S. _____ under quota; Jan. p. 35, Feb. p. 54, Mar. p. 30, May p. 35, June p. 64, July p. 36, Aug. p. 43, Sept. p. 45, Oct. p. 41, Nov. p. 63, canned "Tuna with Vegetables" _____ dutiable at 20 percent ad valorem; Mar. p. 77.
- frozen:
- Japan:
 - Atlantic export prices; May p. 56, export market, early Dec. 1963; Feb. p. 71.
 - export quotas for FY 1964; May p. 56.
 - exports to U. S., 1962-1963; Mar. p. 56.
 - export validations to U. S.; Oct. pp. 61, 62.
 - loins, frozen, Japanese export validations to U.S.; Oct. p. 61.
 - U. S. fishery _____ trends by country, 1962; Feb. p. 56.

INCOME

California fishermen's _____, 1962; Feb. p. 11.

INDEPENDENT CONTRACTOR(S)

Fishermen considered _____ for tax purposes by U. S. Court of Appeals for the Fifth Circuit; July p. 88.

INDIA

- Fisheries expansion aided by Cooley Loan; Jan. p. 52.
- Indian Fisheries Institute, Norway to participate in; Sept. p. 87.
- Landings, fishery, 1962, and foreign trade, 1962/63; Jan. p. 52.
- Norwegian fisheries development project continued; July p. 56.
- Oceanographic research program under International Indian Ocean Expedition; Aug. p. 52.
- Outboard motors for small fishing vessels, FAO project to supply; July p. 41.
- Shrimp:
 - Cochin, new processing plant in; May p. 53.
 - Japanese-Indian joint fishing firm concentrates on; Oct. p. 59.
 - Solar stills purify sea water in _____; May p. 104.

INDIAN OCEAN

- Explorations by the "Atlantis II" in the _____ completed; Jan. p. 26.
- Oceanographic survey of _____, Honolulu Laboratory vessel finishes first phase of; Jan. p. 25.
- Plankton studies give clues to _____-Atlantic Zoogeographical relations; May p. 14.
- Tuna:
 - Japan designates transshipment ports in _____; Dec. p. 89.
 - Japanese mothership in _____ confronted with labor dispute at sea; Sept. p. 74.
 - Soviets participate in fishery; Jan. p. 73.

INDO-PACIFIC FISHERIES COUNCIL

- Eleventh Session held at Kuala Lumpur, Malaysia; Dec. p. 73.
- Fisheries development seminar held by FAO _____; July p. 39.

INDUSTRIAL FISH

Gulf of Mexico:

- commercial catch sampling; July p. 18.
- distribution and abundance of western Gulf bottom-fish; Mar. p. 20, July p. 18.
- life histories of central Gulf bottomfish; Mar. p. 20, July p. 18, Dec. p. 45.

INDUSTRIAL FISHERY PRODUCTS

- Animal and poultry nutrition, fish reduction products use highly regarded in; May p. 23.
- Animal feed, observations and views on use of _____ in; June p. 17, Aug. p. 28.
- Animal nutrition, use of _____ in; May p. 23, June p. 17, Aug. p. 28, Dec. p. 47.
- Fish meal:
 - calcium and phosphorus found entirely available to chickens; Dec. p. 46.
 - Great Lakes region, plant being built in; Apr. p. 16.
 - lipids, total, improved rapid method for determining; July p. 1.
 - Maine and Massachusetts, trends in use of _____ in; Feb. p. 30.
 - Maine, raw material for _____ scarce in; Sept. p. 26.
 - Peruvian conference stresses quality; Jan. p. 38.
 - production and exports for selected countries; Mar. p. 35, Apr. p. 42, June p. 35, Sept. p. 49, Oct. p. 44.
 - Texas, trends in use of _____ in; Jan. p. 18.
- Fish meal and oil:
 - animal nutrition, views on use in; Dec. p. 47.
- Fish meal and solubles:
 - U. S. supply; Jan. p. 18, Feb. p. 32, Mar. p. 21, Apr. p. 20, May p. 24, Aug. pp. 29, 30, Oct. p. 28, Nov. p. 36, Dec. p. 48.
- Fish meal, oil, and solubles:
 - U. S. production; Jan. p. 16, Feb. p. 31, Mar. p. 21, Apr. p. 20, May p. 24, July p. 19, Aug. pp. 30, 31, Oct. p. 27, Nov. p. 35, Dec. p. 48.
 - U. S. production by areas; Jan. p. 16, Feb. p. 31, Mar. p. 21, Apr. p. 20, May p. 24, June p. 18, July p. 19, Sept. p. 25, Oct. p. 27, Nov. p. 35, Dec. p. 47.
 - U. S. supply, major indicators for; Jan. p. 18, Feb. p. 31, Apr. p. 21, Aug. pp. 31, 32, Sept. p. 25, Oct. p. 28, Nov. p. 36, Dec. p. 47.
- Fish oil:
 - market trends, producers' views on; Sept. p. 26.
 - new uses promoted at annual paint industries show; Jan. p. 15.
 - U. S. production forecast for 1964; Nov. p. 37.
 - U. S. trends in supply, disposition, and prices, 1946-1964; Sept. p. 26.
 - Menhaden catches north of Chesapeake Bay decline; Nov. p. 36.
 - Protein extraction and water purification process may be applied to fish reduction industry; Aug. p. 61.

INSPECTION

- Fees, new, for fishery products _____ services; Mar. p. 76.
- New York State accepts USDI _____ for fish; Apr. p. 30.
- Weights and measures activities in the USDI fishery products standards and _____ program; Oct. p. 8.

INSTITUTE OF MARINE SCIENCE (see MIAMI, UNIVERSITY OF)

INTERAGENCY BOTULISM RESEARCH COORDINATING COMMITTEE

Federal Government _____ formed to coordinate botulism research; Sept. p. 13.

INTER-AMERICAN TROPICAL TUNA COMMISSION

Mexico joins _____, May p. 42.

Sixteenth annual meeting held at San Diego, Calif.; May p. 42.

Tuna:

bluefin tagged by _____ off Mexico is recaptured near Japan; Dec. p. 62.

yellowfin, _____ recommends lower 1964 quota for eastern Pacific catch of; May p. 42.

INTERCOM

Underwater _____ permits skin divers to talk; July p. 92.

INTERGOVERNMENTAL MARITIME CONSULTATIVE ORGANIZATION

Panel of Experts on Stability of Fishing Vessels holds first session in London, July 13-17, 1964; Oct. p. 47.

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION

Third Session meets in Paris, June 10-19, 1964; July p. 44.

INTERIOR, U. S. DEPARTMENT OF THE (also see COMMERCIAL FISHERIES, BUREAU OF; FISH AND WILDLIFE SERVICE)

Commercial Fisheries, Bureau of:

Alaska:

disaster relief--charter vessel loan regulations; Aug. p. 95.

fishery loan office, emergency, opened by _____; June p. 63.

Commercial Fisheries Research and Development Act, regulations published on; Dec. p. 118.

Great Lakes area, determination by Secretary of _____ of fishery failure due to resource disaster in; Dec. p. 117.

resource disaster funds, fishery, regulations announced for use of; Oct. p. 85.

whaling licenses on Pacific Coast; June p. 64.

Federal aid:

funds apportioned to states; Apr. p. 14, Aug. p. 20.

Fish and Wildlife Service:

tuna, yellowfin, fishing regulations proposed for eastern Pacific; July p. 82.

Great Lakes aid under new fisheries law given by _____; Oct. p. 25.

Hallbut fishery regulations for North Pacific; Jan. p. 75.

National Fisheries Center and Aquarium, architects selected by _____ to draw plans for; May p. 27.

Oceanography educational grants for 1964 awarded by _____; May p. 28.

Patent on tracking fish migrations received by _____; Aug. p. 39.

Pesticides:

stringent rules ordered in use on lands administered by _____; Nov. p. 52.

INTERIOR, U. S. DEPARTMENT OF THE

Pesticides:

use endangers commercial fisheries says Secretary of _____; June p. 23.

Salmon cannery, site of first Pacific Coast plant designated historic landmark; June p. 25.

Seal skins:

contract negotiations for processing of; Sept. p. 20. proposals for processing, promoting, and selling of; June p. 63.

Sport Fisheries and Wildlife, Bureau of:

National Fisheries Center and Aquarium will feature trained dolphins; Apr. p. 22.

research laboratory, new, to be built on University of Rhode Island property; Feb. p. 50.

Tuna, canned, industry presents _____ with award for marketing assistance; July p. 34.

Whaling regulations amended; Aug. p. 92.

INTERNATIONAL ASSOCIATION OF FISH MEAL MANUFACTURERS

Fifth annual conference in Vienna; Oct. p. 45.

Peruvian conference stresses quality; Jan. p. 39.

INTERNATIONAL ATOMIC ENERGY AGENCY

Radiation control of harmful organisms in foods and animal feeds, recommendations made on; Sept. p. 53.

INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES

(see NORTHWEST ATLANTIC FISHERIES, INTERNATIONAL COMMISSION FOR THE)

INTERNATIONAL CONVENTION FOR THE NORTHWEST ATLANTIC FISHERIES

(see NORTHWEST ATLANTIC FISHERIES, INTERNATIONAL CONVENTION FOR THE)

INTERNATIONAL COOPERATIVE INVESTIGATIONS OF THE TROPICAL ATLANTIC EQUALANT III:

Gulf of Guinea fishery-oceanographic studies, results of (M/V "Geronimo" cruise III); Nov. p. 57.

plans for; Apr. p. 46.

research vessel "Geronimo" makes new discoveries in Gulf of Guinea; July p. 24.

Guinean trawling survey; Aug. p. 1.

Gulf of Guinea investigations by research vessel

"Geronimo" (cruise 4); Oct. p. 31.

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA

Convention, new; Aug. p. 51, Nov. p. 68.

Meeting, 52nd Statutory, held in Copenhagen; Dec. p. 80.

INTERNATIONAL FEDERATION FOR THE PROGRESS OF FOOD

First congress of _____ to be held in Paris; Apr. p. 45.

INTERNATIONAL INDIAN OCEAN EXPEDITION

Explorations by the "Atlantis II" completed; Jan. p. 26.

Explorations by the "Pioneer"; Mar. p. 23.

Gulf of Aden investigations; Mar. p. 39.

India's oceanographic research program; Aug. p. 52.

INTERNATIONAL INDIAN OCEAN EXPEDITION (cont.)

Oceanography investigations by research vessel "Pioneer" of U. S. Coast and Geodetic Survey; Sept. p. 33.

Research vessel "Anton Bruun" participation in _____; Sept. p. 16.

Trawling results of the R/V "Anton Bruun" in the Bay of Bengal and in the Arabian Sea; Nov. Suppl. p. 27.

INTERNATIONAL NORTHWEST PACIFIC FISHERIES COMMISSION

(see NORTHWEST PACIFIC FISHERIES COMMISSION, INTERNATIONAL)

INTERNATIONAL PACIFIC HALIBUT COMMISSION
(see PACIFIC HALIBUT COMMISSION, INTERNATIONAL)INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION
(see SALMON FISHERIES COMMISSION, INTERNATIONAL PACIFIC)

INTERNATIONAL SEAWEED SYMPOSIUM

Fifth meeting to be held Aug. 25-28, 1965, in Halifax, Canada; May p. 44.

INTERNATIONAL SHRIMP COUNCIL

Shrimp consumption, _____ planned to promote; Sept. p. 56.

INTERNATIONAL TRADE

Sanitary regulations in _____ in animals and animal products, need for; Dec. p. 74.

INTERNATIONAL WHALING COMMISSION

(see WHALING COMMISSION, INTERNATIONAL)

INTERNATIONAL WHALING CONVENTION

(see WHALING CONVENTION, INTERNATIONAL)

INTERSTATE COMMERCE COMMISSION

Less-than-carload shipments, _____ approves charge for; Apr. p. 78.

INVENTIONS

"Bathykymograph" measures speed and depth of fishing net; Feb. p. 32.

Clams, new laboratory holding method for; Aug. p. 19.

Fish holder patented; Feb. p. 33.

Float for fishing line patented; Oct. p. 28.

Mechanical fishing vessel unloader being developed; Aug. p. 32.

Quick-freezer, multi-immersion; Feb. p. 33.

Shrimp head and vein removing tool patented; Nov. p. 37.

Sinkers, fishing, method of attaching; Feb. p. 33.

Tracking fish migrations, patents awarded on new methods for; Aug. p. 39.

INVESTMENT OPPORTUNITIES

AID abstracts available at Department of Commerce field offices; Aug. p. 33.

Guatemala shrimp _____; Oct. p. 58.

Honduras, fisheries _____ in; Apr. p. 58.

Icelandic salmon farm; Oct. p. 58.

Philippine fishing industry; Aug. p. 32.

IRAN

Fishery trends and developments; Aug. p. 66.

Fishing industry, status of, 1963; Jan. p. 53.

Soviet-Irano Agreement for Economic and Technical Cooperation; Jan. p. 53.

IRELAND

Fishing company, new, aided by Japanese and French interests; Feb. p. 70.

Fishing industry surveyed by U. S. fishery scientists; Sept. p. 69.

Fish meal factory planned for east coast; Nov. p. 88.

Scallop grounds discovered; Aug. p. 66.

Trawling base in _____, joint Japanese-Irish-French; Mar. p. 55.

Trout farming expanded; Apr. p. 59.

United States-_____ cooperation in joint fisheries projects; May p. 46.

United States team begins fisheries survey; Aug. p. 67.

IRRADIATION PRESERVATION

Fillets, irradiated, and fresh controls, comparative tests made of; Jan. p. 19.

Food preservation by irradiation studied for commercial implications; June p. 24.

Food, radiation and; June p. 89.

Irradiator for fishery products in Massachusetts nears completion; Oct. p. 35.

Irradiator installed aboard M/V "Delaware" for _____ of fish at sea; Aug. p. 33.

Olly fish preliminary tests indicate flavor and storage problems; Feb. p. 33.

Packaging materials for foods preserved by _____, Food and Drug Administration issues new food additive regulation concerning; Oct. p. 84.

Packaging requirements for fishery products preserved by _____; Oct. p. 34.

Radiation control of harmful organisms in foods and animal feeds, recommendations made on; Sept. p. 53.

ISRAEL

Fisheries development; June p. 42.

Fishing fleet, 1963; June p. 42.

Freezer-trawler operations expanded; Apr. p. 59.

ITALY

Atlantic fishing fleet, 1964; Dec. p. 96.

Atlantic fishing grounds off Argentina worked by Italian freezer-trawlers; May p. 46.

European Economic Community tariff quotas on some fishery products granted to _____; Apr. p. 40.

Fish consumption; Dec. p. 97.

Gulf of Aden tuna explorations, 1963; Mar. p. 40.

Import curbs being studied; May p. 55.

Marine oils, foreign trade in, 1962-1963; Oct. p. 60.

Taiwan and _____ to sign fishery agreement; Nov. p. 112.

Tuna:

canned product, Japan proposes to participate in promotion program of; May p. 55.

expansion of operations planned; May p. 54.

fresh and frozen import quota for 1963 increased; Feb. p. 71.

frozen:

import quota, no increase in; May p. 55.

Japanese product, prices paid for; May p. 54.

Japanese rejects reported; May p. 55.

ITALY (cont.)

Tuna (cont.):

frozen (cont.):

- Japanese sales to _____ improving; Oct. p. 59.
- Japanese sales to _____ slow in June; Sept. p. 72.
- industry trends; May p. 54.
- Japanese-Italian joint venture; May p. 54, Oct. p. 59.
- tagging of young bluefin and albacore initiated in Sicily; May p. 55.
- Tunisia detains Italian fishing vessels; Jan. p. 70.
- Vessels for Korea, Italian-French contract to build fishing; Apr. p. 62, Dec. p. 105.
- Vessels:
 - freezer-trawlers, new, for Atlantic fishing fleet; Dec. p. 96.
 - tuna clippers, new, for Atlantic fishing fleet; Dec. p. 96.

IVORY COAST

- Fishery Attache George B. Gross arrives at new post in Abidjan; Mar. p. 77.
- Fishery development in _____, plans for; Oct. p. 60.
- Sardine fishery, new development in; Sept. p. 70.
- U. S. fishery attache program in _____; Nov. p. 29.

JAMES RIVER

- Oyster MSX disease, developments reported by scientists on; Sept. p. 36.

JAPAN

Alaska:

- earthquake victims, Fisheries Association contributes money to; June p. 48.
- fishing activity of _____ off; Nov. p. 16, Dec. p. 22.
- herring roe being readied for shipment to _____; Aug. p. 13.
- shrimp fishery north of Pribilof Islands; July p. 8.
- shrimp fishing activity by _____ during June off; Sept. p. 10.
- Alaska, Gulf of:
 - exploratory fishing by _____ in; July p. 8.
 - fishing effort by _____ scheduled to end Oct. 1963; Feb. p. 10.
 - fish-meal fishery by _____ during June; Sept. p. 11.
 - king crab fishing activity by _____ during June; Sept. p. 11.
 - shrimp vessel and trawlers operate off Pribilof Islands; Mar. p. 8.
 - trawlers, more, to fish in; Dec. p. 100.
 - whaling activity by _____ during June; Sept. p. 11.
- Aluminum fish hold for fishing vessel; Dec. p. 102.

American Samoa:

- Japan External Trade Promotion Organization assigns agent in; Dec. p. 103.
- Japanese fishing firm to charge handling fee for deliveries to; Aug. p. 14.

- Angola, fish-freezing operations planned by _____ off; Mar. p. 61.

- Atlantic, northwest, experimental trawl operations by _____ in; Oct. p. 70.

- Atlantic trawl-caught fish, freezership returns with; Nov. p. 94.

- Atlantic trawl fish to _____, freezer carriers to transport; May p. 64.

- Atlantic trawl fishery; Nov. p. 94.

- Atlantic trawl landings, 1963; Aug. p. 72.

- Australian fishing gear, damage to, _____ takes measures to stop; Jan. p. 43.

JAPAN

- Australian tuna, frozen, direct exports restricted from _____ in 1963 of; July p. 46.

Bering Sea:

- shrimp factoryship also fishes for herring and Pacific ocean perch; June p. 9.
- shrimp factoryship and stern trawlers active in Feb. 1964; May p. 12.
- vessel departures for; July p. 63.

Bering Sea, eastern:

- bottomfish areas for motherships for 1964; Mar. p. 58.
- fishing activities; Apr. p. 9, Aug. pp. 10, 11, Oct. p. 12.
- halibut long-line fishery in June; Sept. p. 11.
- halibut long-line fishing by _____ abandoned; Sept. p. 11.
- long-line fishery moves nearer Pribilof Islands; July p. 8.

- "Black Current" or Kuroshio, international investigation planned of; Feb. p. 65.

Bottomfish:

- Aleutian Islands, western, in fall 1964, long-line fleets plan to fish south of; May p. 60.

- Atlantic resources to be surveyed by _____; Oct. p. 70.

Bering Sea, eastern:

- catch, 1964; Dec. p. 100.
- fishing fleets for 1964 announced; May p. 59.
- fishing grounds, six motherships departed in Apr. for; May p. 58.
- mothership fishery; July p. 63, Sept. p. 76, Nov. p. 94.
- vessel operations for 1964 approved for; Apr. p. 61.

- Gulf of Guinea, poor fishing reported in; June p. 45.

New Zealand:

- licensing of operations off; Nov. p. 95.
- longer trip doubles catch for trawlers in waters off; Nov. p. 95.
- long-line fishery off; Mar. p. 63, May p. 60.

- North Pacific, status of mothership fisheries in; Oct. p. 68.

Bristol Bay:

- king crab:
 - factoryships begin fishing season earlier than year ago; June p. 9.
 - fleet of _____ in; July p. 7.

- Canada-_____ ministerial conference convenes in Tokyo, Sept. 4, 1964; Oct. p. 72.

- Canadian-Japanese joint fishery base proposed; May p. 47, Aug. p. 72.

- Canned fish export target, fiscal year 1964; June p. 44.

- Communist China-Japan fisheries agreement; Jan. p. 61.

Crab:

- coastal waters, new fishery developed in; Sept. p. 76.
- North Pacific, status of mothership fisheries in; Oct. p. 69.

king:

- Bering Sea, eastern, two motherships issued licenses for 1964 operations in; May p. 59.
- Bristol Bay, fishing improves in; Aug. p. 72.
- Bristol Bay operations; Nov. p. 94.

canned:

- exports, fiscal year 1963; Aug. p. 72.
- pack from Bristol Bay, Okhotsk Sea, and Olyutor Sea, 1956-1963; Aug. p. 72.

JAPAN (cont.)

- Crab (cont.):
 - king (cont.):
 - Chilean-_____ proposed venture, developments on; Sept. p. 60.
 - tangle nets, polypropylene, to be used in fishery; May p. 62.
 - U.S.S.R. fisheries negotiations with _____ concluded; July p. 42.
- Cuba:
 - imports of fishery products from _____, Jan.-Apr. 1964; Sept. p. 60.
 - tuna, frozen, exports by _____ to; July p. 51.
- Export controls, status of voluntary fishery, FY 1964; Nov. p. 96.
- Exporters, fish, affected by duty imposed by Ghana; Jan. p. 58.
- Exports of fishery products, Apr.-Sept. 1963; Mar. p. 62.
- Export targets for fishery and aquatic products, fiscal year 1964; May p. 57, Aug. p. 68.
- Factoryships, eight, to be built for U.S.S.R.; Nov. p. 97.
- FAO Council, 43rd, views on; Dec. p. 103.
- Fisheries Agency budget for fiscal year 1965; Oct. p. 71.
- Fisheries census, 1963; June p. 47.
- Fisheries management program, long-range, planned; Jan. p. 59.
- Fisheries mission scheduled to visit U. S. and Canada; June p. 48.
- Fishery production in 1963; Sept. p. 78.
- Fishing gear and catch loss compensation being studied; June p. 47.
- Fishing limits, Japanese-Canadian talks planned on; July p. 67.
- Fishing port, new, in Osaka Prefecture; Sept. p. 79.
- Fish meal and solubles used in mixed feed, 1958-1963; Sept. p. 80.
- Fish meal:
 - association organized; Nov. p. 96.
 - Bering Sea, eastern, operation planned in; Mar. p. 60.
 - Bering Sea operations; June p. 48.
 - Bering Sea production, 1964; Dec. p. 101.
 - imports from Peru approved; Apr. p. 61.
 - imports, Government allots funds for; Jan. p. 58.
 - prices; Aug. p. 74.
 - South Africa to export to _____; July p. 67.
- Fish sausage production, fiscal year 1963; June p. 49, July p. 66.
- Freezer ship departs for Las Palmas to process bottomfish; July p. 64.
- Frozen fish sales promotion planned; July p. 65, Sept. p. 80.
- Gear fishing and catch compensation law revised; Oct. p. 71.
- Ghana's import duty on fish affects _____ and Russian trawling in Atlantic Ocean; Mar. p. 54.
- Hake, canned, firm experimenting with; Dec. p. 103.
- Halibut:
 - Bering Sea catch in Area 3B North Triangle, Mar. 28, 1964; May p. 43.
 - Bering Sea Triangle Area, vessels licensed for; May p. 58.
 - landings and exports, 1958-63; Nov. p. 91.
 - mother ship returns to _____; Aug. p. 70.
 - steaks from _____ not being sold in U. S. at less than fair value; Feb. p. 91.

JAPAN

- Imports from South Korea, additional foreign currency for; July p. 64, Oct. p. 72.
- Irish fishing company, new, _____ and French interests to aid; Feb. p. 70.
- Kelp fishery agreement with Soviet Union; July p. 67, Oct. p. 72.
- Korean-Japanese fisheries talks; May p. 65, Dec. p. 104.
- Long-line gear, new, tested off West African Coast; Feb. p. 73.
- Long-lining, experimental, along Western Aleutians, program being studied for; May p. 60.
- Mackerel, canned, exports, Apr.-Oct. 1963; Jan. p. 57.
- Malaysian trawling permits sought by joint Japanese-Malaysian interests; Feb. p. 76.
- Marine oil exports, 1962-1963; Aug. p. 75.
- Marine oil imports, 1962-1963; Aug. p. 75.
- Marine oil production from Antarctic whaling, 1962/63 and 1963/64 season; Oct. p. 49.
- Marine oil supply and disposition, 1962-1963 and 1964 forecast; Aug. p. 74.
- Marlin tagged by United States recovered in eastern Pacific by Japanese long-line vessels; Sept. p. 41.
- Mexico, fishing company executive expected to visit; Dec. p. 104.
- Mussels, freshwater, commercial quality pearls produced from; Jan. p. 59.
- North Pacific Fisheries Convention negotiations, fishing industry position on; Nov. p. 67.
- North Pacific Fisheries Convention talks, _____ press reaction to; Nov. p. 68.
- North Pacific Fur Seal Convention Protocol amending interim convention on conservation of fur seals ratified by _____; July p. 42.
- North Pacific Ocean, eastern:
 - trawler operations; Mar. p. 60, May p. 58.
- Northwest Atlantic:
 - firm withdraws trawler factoryship from; Dec. p. 101.
 - licensing more vessels to operate in; May p. 63.
- Northwest Atlantic Fisheries Convention, _____ to join; July p. 64, Nov. p. 95.
- Northwest Pacific Fisheries Commission eighth annual conference, progress on; June p. 35.
- Oceanographic stations, unmanned, to be set up off coast; Feb. p. 75.
- Oceanographic vessel, new, delivered; Apr. p. 62.
- Organization for Economic Cooperation and Development; Aug. p. 53, Oct. p. 72.
- Overseas-based fisheries status for 1963 to be studied; Sept. p. 79.
- Oysters:
 - frozen, 1964 pack for export to U. S.; Aug. p. 74.
 - raft culture; Aug. p. 103.
- Purse seines, fishing firm granted license to fish off Africa with; Dec. p. 98.
- Refueling vessels at sea, Tuna Federation hopes to continue; Jan. p. 56.
- Rumania orders another stern trawler from _____; Apr. p. 72.
- Salmon:
 - Alaska:
 - handling and processing aboard _____ vessels of Prince William Sound fish; Nov. p. 15.
 - purchases as of Aug. 7, 1964, from; Oct. p. 68.
 - sale postponement requested; Dec. p. 100.
 - sale to _____ completed; Oct. pp. 67, 68.

JAPAN (cont.)

Salmon (cont.):

canned:

Australia, sold to; June p. 44.
 export prices; Dec. p. 100.
 Great Britain, sold to; Dec. p. 100.
 pack of land-based canners down; Sept. p. 75.
 pink:
 Canadian market trends, _____ view on; July p. 62.
 export prices; Aug. p. 70.
 catch by mothership fleets; Aug. p. 71.
 catch for North Pacific Area B expected to be at record low; Sept. p. 75.
 chum ex-dock price; Dec. p. 100.
 factoryship, new, to be built by fishing firm; Apr. p. 61.
 fishermen request tuna fishing licenses; Aug. p. 71.
 gill nets, monofilament, used in North Pacific fishery; May p. 61.

hatchery facilities, plans call for doubling; Feb. p. 75.

Hokkaido canners hard hit by poor catch; Sept. p. 75.

mothership fishery for 1964 closes with catches slightly under target; Oct. p. 69.

North Pacific:

catch as of mid-June 1964; Sept. p. 75.
 mothership fisheries find poor fishing in; Sept. p. 75, Oct. p. 68.
 mothership prices; Aug. p. 70.
 U.S.S.R., negotiation with _____ concluded; July pp. 42, 62.

pink:

Hokkaido packers begin packing; Aug. p. 71.
 mothership firms to consign sales of Alaskan fish to land-based Packers Association; Nov. p. 91.

prices adjusted for North Pacific mothership fish; Oct. p. 69.

prices negotiated with vessel owners; July p. 61.
 prices paid in _____ for first landings, May 1964; July p. 61.

quota, fishery, allotment and fleet composition; July p. 62.

Soviet Pacific hatcheries and fisheries described by Japanese scientists; July p. 75.

U.S.S.R. fisheries negotiations with _____ concluded; July pp. 42, 62.

Sardines, canned:

exports, Apr.-Oct. 1963; Jan. p. 57.
 market for; Jan. p. 54.

Saury:

canned:

exports, Apr.-Oct. 1963; Jan. p. 57.
 exports for Aug. 1963-June 1964 and estimates for following business year; Oct. p. 70.
 Hokkaido canners sign advance purchase agreement with fishermen's association; Nov. p. 96.
 landings down sharply in 1963; Jan. p. 57.
 production and export trends, late Nov. 1963; Feb. p. 75.

Sea bream, council formed of long-liners fishing off New Zealand; Dec. p. 103.

Shrimp:

Bering Sea:

mothership fishery; July p. 63, Sept. p. 76.
 canned exports to Great Britain; Dec. p. 103.

JAPAN

Shrimp:

farming joint venture in Australia considered; Nov. p. 76.

frozen:

inventory, high, traders concerned over; Jan. p. 58.

market in _____; May p. 62.

Guatemalan-_____ joint operations; Jan. p. 51, Oct. p. 58.

imports from Viet-Nam up in 1963; July p. 80.
 import trends; Aug. p. 74.

Indian-Japanese joint fishing firm concentrates on shrimp; Oct. p. 59.

Mexican (Guaymas) fishing cooperatives, _____

proposes joint venture with; May p. 65.

trawler-cannery, stern, built for fishery in North Pacific; Sept. p. 77.

vessels, four new, delivered by Texas shipyard to Japanese firm in Surinam; June p. 58.

South Africa, new stern trawler to fish off; May p. 63.

Spanish trawl-caught fish imported by _____ firm;

Mar. p. 62.

Suction pump fishing; May p. 65, Oct. p. 73.

Surinam, shrimp fishing operations by _____ in; Oct. p. 79.

Swordfish, Japanese to fish in Northwest Atlantic for; Oct. p. 70.

Tanganyika fishery resources surveyed by _____;

Apr. p. 73.

Technical fishery service agreement made with Ghana; Oct. p. 57.

Territorial waters, U. S., views by _____ on new law prohibiting fishing in; Nov. p. 91.

Trawler(s):

Communist China hopes to purchase large ones from _____; Sept. p. 60.

distant-water licenses approved; Feb. p. 74.

Ghana builds large one in _____; Dec. p. 94.

Ghana to import from _____; May p. 61.

Greek firm buys from _____; Oct. p. 72.

Okinawans for manning, use of; Dec. p. 102.

stern trawler(s):

African waters, new one built for; Dec. p. 102.

Bering Sea fishing by; Dec. p. 101.

Bering Sea operations, one built for; July p. 65.

large ones completed; July p. 64.

operations by _____; May p. 60.

Rumania has one built in _____; May p. 62, July p. 65.

Rumania orders two freezer-type from _____;

Mar. p. 67.

West African fishing grounds to be explored by;

July p. 65.

Trawling:

Atlantic fishery; Feb. p. 74, Sept. p. 77.

Atlantic fleet; July p. 63.

Atlantic fleet, refrigerated carriers being built for; Sept. p. 77.

Atlantic, northwest, explorations continued; Nov. p. 95.

Atlantic operations, new firm plans; Jan. p. 59.

distant-water fisheries, future of; Mar. p. 60.

Ireland base, joint Japanese-Irish-French; Mar. p. 55.

Tuna:

albacore:

Atlantic Ocean and market trends, fishery in; Dec. p. 98.

JAPAN (cont.)

Tuna (cont.):

albacore (cont.):

Atlantic ocean catch improving; Oct. p. 64.
 attracting deep-swimming fish to surface, University's study of; Dec. p. 99.
 export prices; Nov. p. 89.
 prices ex-vessel still high in June 1964; Sept. p. 71.
 price trends ex-vessel, Nov.-Dec. 1963; Feb. p. 72.
 summer fishery; July p. 59, Sept. p. 71.
 summer fishery and export trends; Aug. p. 69.
 Yaizu landings; June p. 45.

American Samoa:

base, Japanese fishery official's view on; July p. 58.
 Japanese Government issues special permit to land Fiji Islands tuna at; May p. 13.
 Japanese negotiate prices with U. S. packers in; July p. 57.

prices, ex-vessel; Aug. p. 14.
 vessels of _____ in difficulty; Jan. p. 56.

Atlantic Ocean:

conservation proposals advanced at FAO-sponsored meeting, views on; Jan. p. 56.
 firm to operate purse-seine fleet in; Aug. p. 70.
 fishery, Aug. 1964; Nov. p. 89.
 fishery trends, 1957-1964; Oct. p. 65.
 fishing trends; Aug. p. 70.
 Government of _____ to explore in; Oct. p. 65.
 mothership, company applies to operate; Jan. p. 55.

behavior near driftwood studied; Sept. p. 73.
 bid-eyed European market reported soft; July p. 57.

bluefin prices ex-vessel in northern _____; Dec. p. 99.

British-_____ joint base in Fiji Islands completed; Oct. p. 57.

canned:

canners developing domestic sales; Apr. p. 60.
 export quota and prices, reductions proposed for; Oct. p. 63.
 exports, Dec. 1963 and year 1963; May p. 56.
 exports, Jan.-Oct. 1963; Apr. p. 60.
 exports to U. S., canners and exporters discuss drop in; Oct. p. 63.

Italian promotion program, _____ proposes to participate in; May p. 55.

Japan Tuna Packers Association members pack bulk; Aug. p. 68.

market trends; July p. 60, Aug. p. 68.
 market trends, Japanese comment on; Mar. p. 57.
 new type product developed; Feb. p. 71.
 promotion in U.S.; Mar. p. 57.

sales, slow, studied by _____ packers and exporters; Oct. p. 64.

specialty products, exports of; Aug. p. 68.

canned in brine:

export quota to U. S.; Jan. p. 54.
 exports to U. S. by destination; Aug. p. 67.
 exports to U. S., 1958-1963; June p. 44.
 U.S. sales; Feb. p. 71, Mar. p. 57, May p. 56, Aug. p. 67.
 whitemeat, standard prices established for; Aug. p. 67.

JAPAN

Tuna:

canned in oil:
 exports; Jan. p. 54, Mar. p. 57, May p. 57, June p. 43.
 prices for export to Canada, 1964; Oct. p. 64.
 Cape Verde Islands:
 agreement signed for joint venture in; July p. 58.
 Japanese base to be constructed on; May p. 48.
 landings good at; Oct. p. 66.
 Ceylon requests loan from _____ to start fishery; June p. 38.
 Chile seeks joint enterprise with _____; May p. 48.
 Cook Islands cannery, plan rejected for; Jan. p. 48.
 Costa Rica transshipment base planned; Apr. p. 61.
 delegation to U. S. being considered; July p. 60.
 Durban, South Africa, transshipment operations at; Feb. p. 73.
 exporters adopt program for fiscal year 1964; June p. 45.
 exporters seeking more trade with Spain and Cuba; Sept. p. 72.
 export quota allocation planned for overseas bases; May p. 57.
 exports of frozen and canned, value of, Jan.-Sept. 1963; Feb. p. 71.
 Fiji Islands base completion delayed; July p. 59.
 fresh prices high in Tokyo market; Mar. p. 57.
 frozen:

Atlantic export prices; May p. 56.
 Atlantic fish exports, Jan.-June 1964; Oct. p. 62.
 Denmark contracts to import from _____; Feb. p. 72.
 export market trends; Jan. p. 55, Feb. pp. 71, 72.
 export prices; Jan. p. 54, Mar. pp. 55, 56, Dec. p. 87.
 export quota for U. S.; May p. 56.
 export quotas for FY 1964; May p. 56.
 export regulations, new, planned; Feb. p. 72.
 exports; May p. 56, June pp. 42, 43.
 exports to Cuba from _____ increasing; Sept. p. 72.
 exports to Europe and Africa; Apr. p. 59.
 exports to U. S., 1962-1963; Mar. p. 56.
 exports to Yugoslavia; Mar. p. 56.
 export validations to U. S.; Sept. p. 71, Oct. pp. 61, 62, Dec. p. 97.

Italy:

Japanese product, prices paid for; May p. 54.
 Japanese rejects reported; May p. 55.
 sales improving; Oct. p. 59.
 sales slow in June 1964; Sept. p. 72.

levy reduced by Japan Frozen Tuna Sales Company; June p. 45.

sales to U. S. continued slow, July-Aug. 1964; Nov. p. 89.

Indian Ocean mothership confronted with labor dispute at sea; Sept. p. 74.

Indian Ocean transshipment ports designated; Dec. p. 99.

industry organizations seek to improve their management; May p. 57.

Italian-Japanese joint venture; May p. 54, Oct. p. 59.

licenses, fishing, decline in value, Sept. p. 73, Nov. p. 90.

long-line catch, 1963; Dec. p. 99.

long-line crews, fishing company to fly replacements for; Sept. p. 73.

JAPAN (cont.)

Tuna (cont.):

- long-line exploratory cruise in Eastern Tropical Pacific aids U. S. shark study; July p. 61.
- long-line industry in _____ studied by Australian mission; Apr. p. 50.
- long-liners refuel at sea by tanker; Sept. p. 74.
- Malaysian fishing base, shore facilities improved at; Jan. p. 55.
- motherhood crew dismissed for disturbance aboard; Oct. p. 67.
- motherhood regulations for two fishing companies changed by Government; July p. 58.

New Caledonia:

- Japanese to expand fishing base in; Jan. p. 64.
- Noumea base, fishing firm withdraws from; Oct. p. 73.

- vessels, more, move to area; Apr. p. 61.
- North Pacific offshore fishery, new; June p. 46.
- offshore fishery, new, number of small vessels to fish in; Mar. p. 62.

- overseas base council under study, establishment of; Sept. p. 72.

- overseas base operators urged by Government to organize; June p. 46.

- overseas bases, regulations revised for; June p. 45.

Pacific:

- eastern area resources to be surveyed by research vessel; Nov. p. 89.
- equatorial fishing trends, Nov. 1963; Feb. p. 73.
- motherhood operations in south; June p. 47, Aug. p. 69, Sept. p. 71, Oct. p. 66, Dec. p. 98.
- motherhood returns from eastern area; May p. 58.
- purse-seining experiment unsuccessful in south; July p. 59.

- Penang bases operate at a loss; Aug. p. 69.
- portable-boat motherhood fishery; June p. 46.
- purse seiners on trial runs, two new; Oct. p. 67.
- research council to be formed; Oct. p. 66.
- resource management problems confronting fishing industry, study of; Nov. p. 90.

- Ryukyu Government seeks changes in fisheries agreement with _____; Dec. p. 111.

- Saint Martin, Netherlands West Indies, base; May p. 69, Aug. p. 81.

skipjack:

- Marianas, good fishing near; June p. 46.
- Philippines, test purse-seining proposed off; May p. 61.

- pole-and-line fishery being studied by major fishing firms; Sept. p. 73.

- specialty products exports, FY 1963; July p. 60.
- Tahiti and Fiji, motherhoods sail for; June p. 46.
- Tahitian waters, motherhood departs for; July p. 59.

- transshipment base at Port Louis, Mauritius Island; Mar. p. 64.

- U.S.S.R., Japanese shipyard launches first of five factory-motherhoods ordered by; May p. 61.
- vessels recover driftwood released by them; Nov. p. 91.

- vessel refueling at sea; May p. 63, July p. 59.

- vessels, efficiency study of; May p. 63.
- vessels, fishing, small, Government stops applications for permits to construct; Feb. p. 73.
- West African Coast, _____ negotiates with Portuguese firm for base off; Sept. p. 72.

JAPAN

Tuna:

- yellowfin:
 - export market trends; Apr. p. 59.
 - export prices; Nov. p. 89.
- Yugoslav market to be surveyed by _____; Oct. p. 81.

- Turtles, two new firms established in Costa Rica may have Japanese participation to fish for; Dec. p. 90.

- U.S.S.R.-_____ fisheries conference opened in Moscow on Mar. 2, 1964; May p. 43.

- U.S. fishery a _____ program in _____; Nov. p. 29.

- U. S. imports of fishery products from _____, 1962; Feb. p. 56.

- U. S. law on fishing in territorial waters, Japanese reaction to; Aug. p. 73.

- United States visited by fishery observers; Sept. p. 37.

- Vessel exports, South Korea asks _____ to liberalize; Sept. p. 74.

- Vessel, research, Fisheries Agency to build large; Nov. p. 98.

Vessels, fishing:

- construction loan program; May p. 64, June p. 48.
- construction permits; Feb. p. 73, Mar. pp. 62, 63, May p. 64, June p. 48, July p. 65, Sept. p. 78, Nov. p. 97.

- high speed engines recommended; Mar. p. 63.

- Vessels, Soviet, being built in _____; Apr. p. 73.

- West Africa, fishery developments in; Apr. p. 61.

Whale meat:

- Chilean-Japanese sales agreement approved; Nov. p. 97.
- production, 1962/63 season; Mar. p. 61.

Whale oil:

- baleen sales by whaling firms; Mar. p. 61.
- export targets; June p. 46.
- production, 1962/63 season; Mar. p. 61.

- Whalers, Japanese, begin operations for Chilean firm; June p. 38.

Whaling:

Antarctic:

- catch and products produced, 1963/64; Sept. p. 80.
- fleet composition of 1963/64 season; Mar. p. 38.
- fleet operations; May p. 62.
- fleets look for better oil market in 1963/64; Jan. p. 60.
- industry trends; May p. 62.
- production targets and composition of 1963/64 fleets; Jan. p. 59.

Brazil:

- consolidation of operations being studied by two _____ fishing firms; Apr. p. 62.
- joint enterprise to continue operations; June p. 37.
- operations; May p. 62, Oct. p. 52.

- catcher vessels off Chile, licenses issued to operate two; Mar. p. 62.

- Ecuadoran operation; May p. 62.

- foreign-based operations studied, establishment of; Mar. p. 61.

- Mexican-Japanese joint venture proposed; Nov. p. 102.

- Netherlands factoryship, purchase of; Apr. pp. 62, 66, Aug. p. 76, Oct. pp. 72, 73.

- South America bases to be surveyed by _____ whaling firm; Apr. p. 62.

- South Georgia Island base, fishing company plans to close; May p. 63.

JAPAN (cont.)

Yellowtail, frozen, firm files application to import from Mexico; May p. 63.

JORDAN

Landings, fishery, drop in 1963; May p. 65.

KELP

Mexican Baja California fishery; June p. 50.

Food additive regulation, new, concerning _____ as a source of iodine in foods for special dietary use; July p. 81.

Japan-U.S.S.R. _____ fishery agreement; July p. 67, Oct. p. 72.

KEY WEST-TORTUGAS

Shrimp gear studies continued on _____ by M/V "George M. Bowers"; Apr. p. 18.

KOREA, REPUBLIC OF

FAO to build fishery training center in _____; Nov. p. 71.

Fishery loans, private, Government guarantees payment of three; Jan. p. 61.

Fisheries trends, third quarter 1964; Dec. p. 104.

Fish market center, new, dedicated at Pusan; Jan. p. 62.

Japan allots US\$1 million for imports from _____; July p. 67.

Japanese-Korean fisheries conference; May p. 65, Dec. p. 104.

Kuroshio Current, _____ to participate in international study of; Dec. p. 104.

Shrimp farming; Dec. p. 104.

Tuna vessel launched; June p. 49.

Tuna vessels, negotiations for additional; Sept. p. 82.

Vessel, freezer, launched at Netherlands shipyard for _____; Nov. p. 98.

Vessels, fishing:

factoryship, British freezing equipment ordered for; Apr. p. 76.

Italian-French contract modified to build; Apr. p. 62.

specifications of fleet ordered from France; Dec. p. 105.

KUROSHIO CURRENT

International investigation planned of Japanese _____; Feb. p. 65.

KUWAIT

Shrimp:

Mexico builds vessels for _____ fishery; Aug. p. 76.

Norwegian shipyards to build vessels for _____; July p. 72.

LABOR, DEPARTMENT OF

Wage and Hour and Public Contracts Division:

shellfish processing industry to be surveyed again; Mar. p. 77.

wage discrimination on account of sex, new regulations prohibit; Aug. p. 97.

LAKE ERIE

Fisheries explorations, May-Nov. 1960; Apr. p. 1.

Ohio commercial fishery landings 1963; July p. 27.

Shellfish in _____ may have commercial value; Jan. p. 28.

LAKE ERIE

Smelt trawling explorations in _____, May-Nov. 1960; Apr. p. 1.

Yellow perch landings in _____ down sharply in 1964; Nov. p. 33.

Yellow pike commercial landings increase predicted; Mar. p. 34.

LAKE HERRING (also see HERRING)

Lake Superior, eastern, trawl and lampara seine tested by R/V "Kaho" for catching _____ in; Feb. p. 20.

LAKE HURON

Research station, new, on _____; Aug. p. 58.

LAKE MICHIGAN

Alewife and chub stocks in _____, seasonal distribution and abundance studies continued; June p. 15, Aug. p. 23.

Alewife, chub, and yellow perch, seasonal distribution and abundance studies of; Nov. p. 33, Dec. p. 40.

Chub depth distribution studies in _____ continued; Jan. p. 11.

Lamprey, sea:

chemical treatment of streams in _____ being continued; Sept. p. 53.

control in _____ and Lake Superior; Aug. p. 28.

Lampicide treatment of streams tributary to _____; Dec. p. 42.

Trawling investigations in northern _____ and Green Bay continued by R/V "Kaho"; Feb. p. 17.

Trawling investigations in southern _____ by M/V "Kaho"; May p. 18.

Water research contract awarded by U. S. Public Health Service; Apr. p. 17.

LAKE SUPERIOR

Area Redevelopment Administration technical assistance project, commercial fishing industry to be aided by; May p. 78.

Lake herring, trawl and lampara seine tested in eastern _____ for catching; Feb. p. 20.

Lake trout:

distribution of spawning fish in _____, studies continued on; Jan. p. 11.

fishing trends; Apr. p. 45.

increase in size and abundance of marketable fish in 1963; Sept. p. 53.

population in _____ improved; Feb. p. 63.

Lamprey, sea, control in _____ and Lake Michigan; Aug. p. 28.

Schedule of fishery explorations in _____ by M/V "Kaho"; Sept. p. 20.

Trawling of commercial species in _____, studies continued by M/V "Kaho" on; Aug. p. 25, Nov. p. 30.

Whitefish spawning survey in western _____ by "Siscowet"; Mar. p. 17.

LAKE TROUT

Canadian fishery resources at Great Bear Lake surveyed; Mar. p. 47.

Great Lakes Fishery Commission, rehabilitation program discussed at interim meeting of; Feb. p. 63.

Great Lakes hatchery and planting program; Apr. p. 17.

Lake Superior:

distribution studies continued; Jan. p. 11.

LAKE TROUT (cont.)

Lake Superior (cont.):

- fishing trends; Apr. p. 45.
- hatchery-reared _____ planted in 1963, increased number of; Sept. p. 53.
- marketable _____ in 1963, increase in size and abundance of; Sept. p. 53.

Michigan:

- stocking program continued in fall 1963; Jan. p.20.
- stocks increase due to research; Feb. p. 35.

LAMPREY, SEA

Great Lakes:

- control in Lake Superior and Lake Michigan; Aug. p. 28.
- control of _____; Feb. p. 62, Aug. p. 28, Sept. p.21.
- larger catch in early 1964 than previous years; Sept. p. 21.

Great Lakes Fishery Commission:

- control program discussed at meeting of; Feb. p. 62.
- eradication discussed at Ottawa meeting; Feb. p.62.
- Lake Huron streams located for possible future chemical treatment; Sept. p. 52.

Lake Michigan:

- chemical treatment of streams continued; Sept. p. 53.
- lampicide treatment of tributary streams; Dec. p.42.
- Lake Superior barrier catches continued low in 1963; Sept. p. 52.

LAMPRICIDE

- Lake Michigan, treatment with _____ of streams tributary to; Dec. p. 42.

LANDINGS

- Great Lakes fisheries _____, 1962; Feb. p. 17.
- Hawaiian commercial fishery _____, July-June 1962/63 and 1961/62; Feb. p. 29.
- New England fisheries, 1962; Jan. p. 21.
- U. S. commercial fishery _____; Jan. p. 31, Apr. p. 33, Oct. p. 38, Nov. p. 58, Dec. p. 63.

LATIN AMERICA

- Fish processing equipment, Canadian trade mission explores _____ market for; May p. 47.

LATVIA

- Salmon farming in _____; Apr. p. 74.

LAW OF THE SEA

- Territorial Sea and Contiguous Zone Convention: Dominican Republic ratifies; Nov. p. 70.
- enters into force; Oct. p. 49.
- Third International Conference recommended by American Bar Association group; Dec. p. 39.

LIBERIA

- Fishing company, new, expected to increase landings and consumption; Jan. p. 63.
- Fishing industry undergoing modern expansion; Sept. p. 82.
- Freezing broadens _____ market for fish; Jan. p.62.

LICENSE(S)

- Australian fisheries, _____ regulations affecting; July p. 45.

LIPIDS

- Fish meal, improved rapid method for determining total _____ in; July p. 1.

LIQUID NITROGEN

- Freeze fish, use of _____ to; Nov. p. 30.

LOAN(S)

- Korean Republic guarantees payment of three _____; Jan. p. 61.
- Moroccan government, canned sardine _____ receive renewed partial guarantee from; Nov. p. 103.
- NFI Convention, aid to U. S. fishing industry proposed at; June p. 19.
- Portugal's _____ fund to renovate fishing fleet; June p. 57.
- Small Business Administration:
 - disaster _____ for hurricane-damaged areas; Dec. p. 125.
 - disaster _____ to Alaska firms in earthquake area; Aug. p. 97.
- New England commercial fisheries, _____ to firms in; Oct. p. 86, Dec. p. 125.
- United Kingdom fishery _____ interest rates revised; Jan. p. 71, Mar. p. 72, Apr. p. 75.

LOBSTER(S)

- Canada's North Atlantic industry; Mar. p. 43.
- Iceland:
 - exports increased; Nov. p. 88.
 - new type product available; Nov. p. 86.
- Maine resource, supply, sustained yield, and management of; Nov. Suppl. p. 19
- Spiny:
 - air shipment of anesthetized live _____ considered by Australian exporters; May p. 46.
- Australia:
 - catch increases in fiscal year 1962/63; Sept. p.57.
 - tagging project; July p. 46.
- Brazil, landings and export trends in; Feb. p. 67.
- Costa Rica's fishery; Dec. p. 90.
- Ecuador's industry trends, 1963; Sept. p. 66.
- Mexico's Baja California fishery; June p. 50.
- New Zealand, small size exports banned in; May p. 69.
- Nicaragua fishing regulations established; Feb. p. 77.
- Panama:
 - exploratory fishing project concluded; Feb. p.78.
- fishery trends; Sept. p. 89.
- South Africa fishing regulations amended; Sept. p. 93.
- Tagging, population studies aided by new method of; Oct. p. 28.

LONG ISLAND

- Striped bass tag returns sought from _____ marking program; Feb. p. 51.

LOUISIANA

- Crab fishery trends, 1963; Nov. p. 38
- Fish kills investigated by Public Health Service; Jan. p. 74, Sept. p. 18.
- Landings, fishery, 1963; Nov. p. 37.
- Menhaden fishery trends, 1963; Nov. p. 39.
- Oyster fishery trends, 1963; Nov. p. 38.
- Shrimp fishery trends, 1963; Nov. p. 37.

LUXEMBOURG-BELGIUM

European Economic Community, tariff quotas on some fishery products granted by; Apr. p. 40.

MACKEREL

Canned:

Dominican Republic prices reduced on salmon style; Mar. p. 53.
Japanese exports, Apr.-Oct. 1963; Jan. p. 57.
Philippine award; Jan. p. 68.
Landings, Jan.-Sept. 1964; Dec. p. 64.
South Africa Republic fishery, 1963; May p. 72.
Swimming behavior studied at Honolulu laboratory; Nov. p. 25.

MAINE

Bloodworm production in ____; Aug. p. 7.
Fish meal:
raw material for industrial fishery products scarce in ____; Sept. p. 26.
trends in use; Feb. p. 30.
Herring landings, Jan.-Aug. 1964; Dec. p. 64.
Lobster resource, supply, sustained yield, and management of; Nov. Suppl. p. 19.
Marine laboratory, University of ____ may establish; July p. 25.
Marine worm changes in abundance associated with seawater temperature fluctuations; Aug. p. 7.
Ocean perch landings, Jan.-Aug. 1964; Dec. p. 63.
Rockland Harbor, ARA technical assistance project to study proposed deep-water port facility at; Oct. p. 82.
Salmon, Atlantic, restoration program and experimental fish culture studies; Apr. p. 30.
Sardines:
canned:
National Boy Scout Jamboree, served at; Sept. p. 28.
pack, 1963; Feb. p. 43.
stocks; Jan. p. 20, Mar. p. 22, July p. 19, Sept. p. 27, Oct. p. 29.
World's Fair display; June p. 19.
canning season opens; June p. 18.
Shellfish sanitation, ____ conducts research on; Oct. p. 37.

MALAYA, FEDERATION OF
(see MALAYSIA)

MALAYSIA

Carp, grass, from ____ to fight water vegetation in United States ponds; Dec. p. 26.
Fisheries trends, third quarter 1963; Feb. p. 76.
Fish imports from ____, Thailand requests lifting of ban on; Jan. p. 70.
Sardines, canned, market trends for imported; Feb. p. 75.
Tuna bases, Japanese, in ____ operate at a loss; Aug. p. 69.
Tuna fishing base, Japanese shore facilities improved at; Jan. p. 55.

MAMMALS, MARINE

Fur seals, modified tagging techniques suggested to prevent excess mortality of; Aug. p. 22.

MANATEE

Aquatic weeds, use of ____ to control; Oct. p. 107, Dec. p. 106.

MARIANA ISLANDS

Tuna, skipjack, fishing good near ____; June p. 46.

MARINE RESOURCES

FAO Advisory Committee on ____ meets in Rome; Apr. p. 42.
FAO Director-General urges plans for exploration of ____; Apr. p. 43.

MARINE WILDLIFE

Salt water conversion by ____; Mar. p. 75.

MARINE WORM

Abundance changes associated with seawater temperature fluctuations; Aug. p. 7.

MARKETING

Danish promotion of fish ____ in U. S.; June p. 40.
Edible fishery products ____ prospects; Jan. p. 20, Apr. p. 21, July p. 20, Oct. p. 29.
Japanese frozen fish, national program established to promote sales of; July p. 65.
Tuna, canned, industry presents award to Interior Department for ____ assistance; July p. 34.
United Kingdom fish ____ information service introduced by White Fish Authority; Aug. p. 86.

MARLIN

Blue ____ spawning grounds sought by University of Miami research vessel; Sept. p. 28.
Larval specimens collected in South Atlantic; Nov. p. 48.
Tagging program in eastern Pacific; Sept. p. 41.

MARYLAND

Area Redevelopment Administration:
clam research project to be continued; Oct. p. 83.
industrial loan to pet food firm approved; July p. 81.
Chesapeake Bay "fish-kill" controls established; Aug. p. 33.
Chesapeake Research Council organized; Sept. p. 17.
Clam, surf, survey off ____ and Virginia; Nov. p. 41.
Oysters:
observations for 1964; Oct. p. 34.
spawning and setting in 1963, studies indicate favorable conditions for; Feb. p. 33.

MASSACHUSETTS

Fishery technology school, University of ____ may establish; July p. 25.
Fish meal in Maine and ____, trends in use of; Feb. p. 30.
Fish stick plant to be established by Norwegians in New Bedford; Apr. p. 67.
Flounder, blackback, tagging program off ____; Aug. p. 34.
Ocean perch landings, Jan.-Sept. 1964; Dec. p. 63.

MATERIALS

Fishing ____, review of discussions at World Fishing Gear Congress on; May p. 1.

MAURITANIA

Fisheries treaty, 50-year, signed by ____ with Spain; July p. 67.

MAURITIUS ISLAND

Tuna transshipment base, Japanese, at Port Louis; Mar. p. 64.

MENHADEN

Catches north of Chesapeake Bay decline; Nov. p. 36.
Gulf off-season population survey; Feb. p. 26.
Gulf of Mexico investigations continued; Apr. p. 17, May p. 21, July p. 13.
Landings, U. S., Jan.-Sept. 1964; Dec. p. 63.
Louisiana fishery trends, 1963; Nov. p. 39.
Oil, uses for; Nov. p. 14.

MEXICO

Abalone fishery in Baja California; June p. 50.
Aquatic weeds in lakes, use of manatee to control; Dec. p. 106.
Cannery, new fish, Spanish businessmen to finance construction of; Dec. p. 106.
Canning industry center at Ensenada, Baja California; June p. 49.
Clam, Pismo, fishery in Baja California; June p. 50.
Cod-oil import tariff reduced; Nov. p. 98.
Cuban fishing vessels inspected for hoof and mouth disease; Jan. p. 64.
Ensenada fishing industry; June p. 49.
Exports of fishery products, 1963; Nov. p. 99.
Fisheries College at Ensenada, Baja California; June p. 51.
Fisheries industries, large-scale expansion planned of; Apr. p. 63.
Fisheries trends, 1963; Nov. p. 100.
Fishery Attache, U. S.:
Croker, Richard S., arrives at new post in Mexico City; Mar. p. 77.
program in _____; Nov. p. 29.
Fish meal imports up sharply, Jan.-Sept. 1963; Jan. p. 64.
Foreign trade in fishery products, 1963; Nov. p. 99.
Hake distribution and abundance off northern _____ and southern California studied by M/V "John N. Cobb"; June p. 21.
Imports of fishery products, 1963; Nov. p. 99.
Industrial fish trends, 1963; Nov. p. 101.
Inter-American Tropical Tuna Commission, _____ joins; May p. 42.
Japanese fishing company executive expected to visit _____; Dec. p. 104.
Kelp fishery in Baja California; June p. 50.
Lobster, spiny, fishery in Baja California; June p. 50.
Major fisheries other than shrimp, 1963; Nov. p. 101.
Marine exhibit, first, a success; May p. 66.
North American Fisheries Conference of Commercial Fishing Industries, participation by _____ scheduled in; Dec. p. 70.
Port, fishing, planned at Progreso, Yucatan; May p. 66.
Port, "pilot" fishing, at Alvarado nears completion; Sept. p. 84.
Sea turtle fishery in Sinaloa; Aug. p. 78.
Shark fishery at Teacapan, Sinaloa; Aug. p. 78.
Shrimp:
Campeche vessel owners suffer from lower prices; Jan. p. 63.
fishery trends, 1963; Nov. p. 100.
fishing seasons, opening of; Nov. p. 98.
French Guiana, vessels to fish for; June p. 51.

MEXICO

Shrimp:

Japanese propose joint venture with Guaymas fishing cooperatives; May p. 65.
Kuwait, vessels built for; Aug. p. 76.
manning vessels with fishermen not members of cooperatives; June p. 52.
season for fishing, vessels leave Mazatlan to open; Dec. p. 105.
vessel tie-up at Mazatlan, possible effects of; July p. 68.
Sinaloa, secondary fisheries of; Aug. p. 77.
Sport fishery of Mazatlan; Aug. p. 77.
Tariff rates, new, for four categories of fishery products; Nov. p. 98.
Tuna, bluefin, tagged off _____ is recaptured near Japan; Dec. p. 62.
U. S. imports of fishery products from _____, 1962; Feb. p. 56.
Vessels, fishing:
fleet at Ensenada, Baja California; June p. 51.
multiple-use type, first of five received from Netherlands; Apr. p. 64.
training type, four, ordered by the Government; Nov. p. 102.
Whaling venture in _____ proposed, joint Japanese-Mexican; Nov. p. 102.
Yellowtail, frozen, Japanese firm files application to import from _____; May p. 63.

MIAMI, UNIVERSITY OF

Equatorial Atlantic oceanographic investigations, research vessel of _____ returns from; Sept. p. 34.
Vessels, research, not subject to union rules; Aug. p. 35.

MICHIGAN

Lake trout:
stocks increase due to research; Feb. p. 35.
stocking program continued in fall 1963; Jan. p. 20.
Sport fish survey in Great Lakes waters; July p. 20.

MIDDLE ATLANTIC STATES

Clam, soft, sanitation quality study in _____ area; Oct. p. 23.
Fishery products, more, used in U. S. in 1963; May p. 34.

MIGRATION

Salmon, Columbia River, marking program reveals _____ patterns of; Oct. p. 35.

MILFOIL

Conference on control; May p. 30.

MINNESOTA

Fish-processing establishments, regulations for; July p. 20.

MISSISSIPPI

Gulf Coast state research laboratory in _____ receives grants; Aug. p. 34.
Shrimp catch from _____ Sound analyzed; May p. 25, Aug. p. 34.

MISSISSIPPI RIVER

Landings, fishery, of the _____ drainage area, 1962; May p. 25.
Pesticide endrin blamed in _____ fish kill; Sept. p. 37.

MISSOURI

Fisheries, commercial, catch in 1963; May p. 26.

MOROCCO

Canned fish exports, June-Sept. 1962-63; Feb. p. 76.
Fisheries trends; Jan. p. 64, July p. 68.

Sardines:

canned:

loans receive renewed partial guarantee from Government; Nov. p. 103.
market trends and exports; Jan. p. 64, Mar. p. 64, Apr. p. 65.

industry development project; May p. 68.

Tangier fish market sales, 1963; July p. 69.

Tuna:

cannery, new, being built in Tangier; Apr. p. 65.
French-_____ joint fishing exploration planned; Nov. p. 102.

industry development project; May p. 68.

Vessel, fishing, construction in Norway for _____; June p. 52.

MSX DISEASE

Oyster resistance to _____ studied with funds administered by U. S. Bureau of Commercial Fisheries; Nov. p. 52.

MULLET

Hatching, artificial, of _____ in Taiwan; Mar. p. 70.

MUSSELS

Freshwater _____, Japanese produce commercial quality pearls from; Jan. p. 59.

NARRAGANSETT BAY

Quahog research by University of Rhode Island; Sept. p. 17.

NARWHAL (WHALES)

Longtoothed _____ found in Canada's far north; Mar. p. 47.

NATIONAL BOY SCOUT JAMBOREE

Maine canned sardines served at _____; Sept. p. 28.

NATIONAL FISHERIES CENTER AND AQUARIUM

Aquatic specimens to be donated; May p. 26.
Architects selected to draw plans; May p. 27.
Design program being prepared; July p. 21.
Dolphins, trained, will be featured; Apr. p. 22.
Plans, new, approved; Dec. p. 48.
Preview of _____; Mar. outside back cover.
Research facilities to be extensive; July p. 21.

NATIONAL FISHERIES INSTITUTE

Aid to United States fishing industry proposed at Convention; June p. 19.
North American Fisheries Conference of Commercial Fishing Industries, participation by _____ scheduled; Dec. p. 70.

NATIONAL INSTITUTE OF HEALTH

Oceanographic research training grants, graduate, University of Rhode Island receives funds for; July p. 25.

NATIONAL SCIENCE FOUNDATION

Gulf Coast State Research Laboratory, grants given by _____ to; Aug. p. 34.

NATIONAL SCIENCE FOUNDATION

Sea floor studies, grants awarded by _____ to University of Miami for; Aug. p. 36.

Trawling results of the R/V "Anton Bruun" in the Bay of Bengal and in the Arabian Sea; Nov. Suppl. p. 27.

NATIONAL SHELLFISH SANITATION WORKSHOP

Fifth to be held Nov. 17-19, 1964; Oct. p. 36.

NAVIGATIONAL AIDS

Gulf of Mexico, Coast Guard hearings on lights and fog signals on offshore platforms in the; May p. 79.

NAVY, U. S.

Oceanographic research vessel, new, "Silas Bent" launched; Oct. p. 32.

Research vessel, new, "Thomas G. Thompson" launched for _____; Oct. p. 32.

NETHERLANDS

Atlantic Ocean, northeast, and European fishery policies, views of _____ on; Feb. p. 76.

Auction facility for fish at Scheveningen, modern; Dec. p. 106.

Exports of fishery products, 1963; Apr. p. 66.
Fisheries exhibition, international, planned for Scheveningen; Mar. p. 38.

Fisheries trends, 1963; Apr. p. 66.

Fishing industry reorganization proposed; Sept. p. 85.

Fish meal prices, 1962-1963; Aug. p. 79.

Marine-animal oil:

foreign trade, 1962-1963; Aug. p. 81.

industry trends, 1963; July p. 69.

production from Antarctic whaling, 1962/63 and 1963/64 season; Oct. p. 49.

supply and disposition, 1963 with comparisons; Aug. p. 79.

Offshore fishing, experimental, to continue; June p. 52.

Oyster industry declines; Feb. p. 77.

Trawler "Tinie Cornelia," new; July p. 69.

Vessels:

factoryships, small stern-fishing, ordered by Newfoundland (Canada) firm from _____ shipyard; July p. 49.

factoryship under construction in _____ for Korean interests, British freezing equipment ordered for; Apr. p. 76.

freezer type for North Korea launched at _____ shipyard; Nov. p. 98.

multiple-use type, Mexico receives first of five; Apr. p. 64.

Whaling:

Antarctic results in 1963/64 season; Mar. p. 65, July p. 69.

catcher vessels, two, sold to Norway; Oct. p. 73.

factoryship offered for sale to Japan; Apr. p. 66.

factoryship sold to Japan; Oct. p. 73.

fleet composition of 1963/64 Antarctic season; Mar. p. 38.

Japanese Fisheries Agency authorizes purchase of _____ factoryship; Oct. p. 72.

Japanese may purchase _____ factoryship; Aug. p. 76.

Japan postpones decision on sale offer of _____ factoryship; Apr. p. 62.

NETHERLANDS WEST INDIES

Tuna:

- ice vessels, six, assigned by Japanese firm to St. Martin base; Aug. p. 81.
- Japanese base at St. Martin; May p. 69.
- St. Martin base, transshipment quota for; May p. 69.

NETS

- Monofilament and multifilament gill _____, comparison of salmon catches in; Oct. p. 1.

NEW CALEDONIA

Tuna:

- Japanese fishing firm withdraws from base at Noumea; Oct. p. 73.
- Japanese to expand fishing base; Jan. p. 64.
- Japanese vessels, more, move to _____ area of South Pacific; Apr. p. 61.

NEW ENGLAND

- Bottomfish and scallop landings in 1963 and forecast for 1964; Feb. p. 36.
- Fisheries, 1962; Jan. p. 21.
- Fishery products, more, used in U. S. in 1963; May p. 34.
- SBA loans to commercial fisheries firms in July 1964; Oct. p. 86.
- Soviet fishing fleet off _____; June p. 59.
- Transportation rate increase sought by truckers; Feb. p. 51.
- Vessels, fishing, use basket in rigging as signal for right of way; July p. 23.

NEW JERSEY

- Menhaden fishing fleet moves into more productive Chesapeake Bay area; Nov. p. 36.

NEW YORK

- Inspection for fish, _____ accepts USDI; Apr. p. 30.
- Shellfish reclamation project; Oct. p. 37.
- Wholesale Fulton Fish Market (New York City) relocation recommended; Nov. p. 40.

NEW ZEALAND

Bottomfish:

- Japanese fishing off _____; May p. 60.
- Japanese plan long-line fishery off _____; Mar. p. 63.
- Japanese seek licensing of operations off _____; Nov. p. 95.
- Japanese trawlers in _____ waters, longer trip doubles catch for; Nov. p. 95.
- Exploratory fishing and marine research; Apr. p. 66.
- Japanese distant-water trawl fisheries, future of; Mar. p. 61.
- Lobster, spiny, small, exports banned; May p. 69.
- Sea bream, long-line, fishery operators off _____; Japanese council formed of; Dec. p. 103.
- Sperm whaling off _____ promising in early 1964; Sept. p. 85.
- Stern trawlers, small, trend to; Oct. p. 74.
- Tuna, bluefin, explorations off south coast; Oct. p. 73.

NICARAGUA

- Lobster, spiny, fishing regulations established; Feb. p. 77.

NICARAGUA

- Shrimp processing at El Bluff, U. S. fisheries firm begins; Jan. p. 65.

NIGERIA

- Shrimp resources promising; Sept. p. 86.

NORDIC COUNTRIES

- Ninth Nordic Fisheries Conference held; Sept. p. 54.

NORTH AMERICAN FISHERIES CONFERENCE

- Commercial fishing industries to hold first _____; Dec. p. 70.

NORTH ATLANTIC

- Fishery products, more, used in U. S. in 1963; May p. 34.
- Soviet fishing vessels return to New England waters; July p. 23.

NORTH ATLANTIC FISHERIES EXPLORATION AND GEAR RESEARCH

- Clam, surf, survey continued; Nov. p. 41.
- Electrical fishing gear in operation observed by television (M/V "Delaware"); Sept. p. 30, Nov. p. 43.
- Electrical trawling tests continued; Jan. p. 21, June p. 20.
- Ocean perch gilling by trawl nets studied (M/V "Delaware" cruise 64-1); June p. 19.
- Trawling, off-bottom, as against conventional trawling, experiments on (M/V "Delaware" cruise 64-8); Dec. p. 50.
- Tuna and swordfish distribution studies in North Atlantic continued; Feb. p. 37, June p. 20, Sept. p. 28.
- Whiting escapement study (M/V "Delaware" cruise 64-5); Nov. p. 42.

NORTH ATLANTIC FISHERIES INVESTIGATIONS

- Continental Shelf waters surveyed (M/V "Albatross IV" cruise 64-11); Nov. p. 46.
- Flounder, blackback, tagging program; June p. 21, Aug. p. 34, Oct. p. 30.
- Georges Bank northern edge surveyed (M/V "Albatross IV," cruise 64-6); July p. 23.
- Groundfish distribution and abundance studies continued; Feb. p. 36, Apr. p. 23, Nov. p. 44.
- Gulf of Maine hydrographic-plankton survey (M/V "Albatross IV" cruise 64-2); May p. 28.
- Haddock:
 - collections for experimental purposes (M/V "Albatross IV" cruise 64-4); June p. 21.
 - spawning and maturity investigated (M/V "Albatross IV" cruise 64-3); June p. 21.
- Instruments, oceanic, return requested of unmarked; Aug. p. 35.
- Observations during Aug. 1964 cruise by M/V "Albatross IV" (cruise 64-10); Nov. p. 46.
- Ocean perch, tagged, off Maine, annual check of; Sept. p. 35.
- Scallop, sea, population survey on Georges Bank continued; Aug. p. 34, Dec. p. 51.
- Whiting escapement study by M/V "Delaware"; Nov. p. 42.

NORTH ATLANTIC OCEAN

- Observations during Aug. 1964 cruise by M/V "Albatross IV"; Nov. p. 46.

NORTH CAROLINA

Fisheries potential survey by ARA in Carteret County; July p. 81.

Trawling, exploratory, off _____; July p. 31.

NORTHEAST ATLANTIC FISHERIES COMMISSION

Second meeting held at the Hague; Aug. p. 52.

NORTH PACIFIC

Groundfish resources, Canadian scientists study; Mar. p. 46.

Halibut:

fishing ended Nov. 30, 1963; Feb. p. 64.

fishing in area 3A ended Aug. 19, 1964; Oct. p. 46.

landings, 1964 season to July 20, 1964; Sept. p. 24.

Japan:

distant-water trawl fisheries, future of; Mar. p. 61.

shrimp stern trawler cannery built; Sept. p. 77.

trawlers licensed to fish eastern _____; May p. 58.

Salmon:

Aleutians, western, migration studies off; Oct. p. 36.

Japan:

catch as of mid-June 1964; Sept. p. 75.

mothership catch reported poor; Sept. p. 75.

prices adjusted for mothership fish; Oct. p. 69.

Shellfish industry affected by recent disasters; Oct. p. 37.

Soviet factoryship for _____ near completion, construction of; Nov. p. 114.

NORTH PACIFIC FISHERIES COMMISSION, INTERNATIONAL

Halibut quota for triangle area recommended; Jan. p. 41.

Statement by U. S. Delegation Chairman at Sept. Conference in Tokyo; Feb. p. 64.

Tenth annual meeting held in Vancouver; Jan. p. 40.

NORTH PACIFIC FISHERIES CONVENTION, INTERNATIONAL

Japanese fishing industry position on negotiations; Nov. p. 67.

Japanese press reaction to talks; Nov. p. 68.

Meeting in Ottawa, Sept. 9, 1964, parties to the _____ will seek agreement at; Sept. p. 55.

President Johnson comments on negotiations of parties to the _____; Nov. p. 67.

Renegotiation talks in Ottawa end; Dec. p. 79.

Talks in Ottawa, Sept. 9, 1964, parties to _____ resumed; Nov. p. 67.

NORTH PACIFIC FISHERIES EXPLORATION AND GEAR DEVELOPMENT

Bottomfish trawling survey off Washington coast (M/V "John N. Cobb" cruise 65); Sept. p. 31.

Demersal fish off southern Washington surveyed by M/V "John N. Cobb"; July p. 23.

Experimental fishing with "Cobb" pelagic trawl (M/V "St. Michael" cruise 2); Nov. p. 47.

Hake:

distribution and abundance explored (M/V "John N. Cobb" cruise 67); Oct. p. 30, Dec. p. 52.

distribution and abundance of adult fish off southern California and northern Mexico studied

(M/V "John N. Cobb" cruise 64); June p. 21.

Marine fauna, deep-water, off mouth of Columbia River, survey continued of (M/V "Commando" cruise 11); Jan. p. 23, Apr. p. 25, Nov. p. 46.

NORTH PACIFIC FISHERIES EXPLORATION AND GEAR DEVELOPMENT

Pelagic trawl:

development program (M/V "St. Michael" cruise 3); Oct. p. 31.

effectiveness in catching winter herring (M/V "Yaquina" cruise 1); Jan. p. 22.

multipurpose type tested (M/V "St. Michael" cruise 3); Dec. p. 54.

Scallop resources off coast of Oregon surveyed (M/V "John N. Cobb" cruise 62); Jan. p. 22.

Shrimp trawl fish-catching efficiency compared with that of eastern otter-trawl (M/V "Commando" cruise 11); Nov. p. 46.

Tuna, albacore, abundance and distribution survey (M/V "John N. Cobb" cruise 66); Sept. p. 32, Dec. p. 51.

NORTH PACIFIC FISHERY INVESTIGATIONS

Salmon:

research in North Pacific, Canada-United States ("George B. Kelez" Jan.-Mar. 1964); Mar. p. 22.

winter distribution and tagging by M/V "George B. Kelez"; July p. 30.

NORTH PACIFIC FUR SEAL COMMISSION

Convenes in Moscow for annual meeting; Apr. p. 48.

Japan ratifies protocol amending interim convention; July p. 42.

Protocol amending interim convention ratified by United States; May p. 44.

Soviet Union ratifies protocol amending interim convention; June p. 35.

NORTH SEA

Oil explorations in _____, British discuss danger to fisheries from; Oct. p. 80.

NORTHWEST AFRICA

Polish trawling operations off _____; Mar. p. 66.

NORTHWEST ATLANTIC

Japanese distant-water trawl fisheries, future of; Mar. p. 61.

Japanese firm to continue exploratory trawling; Nov. p. 95.

Japanese firm withdraws trawler factoryship from _____; Dec. p. 101.

Japan plans licensing more vessels to operate in _____; May p. 63.

NORTHWEST ATLANTIC FISHERIES, INTERNATIONAL COMMISSION FOR THE

Accomplishments and outlook; Dec. p. 77.

Annual meeting, 14th, held at Hamburg; Aug. p. 49.

Cod and haddock fisheries in Northwest Atlantic, status discussed at meeting; Aug. p. 50.

Salmon, Atlantic, fishery; Dec. p. 82.

Seals, harp and hood, proposed amendment for jurisdiction by _____ over; Mar. p. 46.

NORTHWEST ATLANTIC FISHERIES, INTERNATIONAL CONVENTION FOR THE

Japan to join _____; July p. 64, Nov. p. 95.

Harp and hood seals:

Canada ratifies Protocol amendment concerning; May p. 43.

Iceland ratifies Protocol amendment concerning; June p. 35.

NORTHWEST ATLANTIC FISHERIES, INTERNATIONAL CONVENTION FOR THE (cont.)

Seals, harp and hood (cont.):
protocol amendment ratified by Denmark and France; Dec. p. 79.
Soviet Union ratifies protocol amendment concerning; July p. 42.

NORTHWEST PACIFIC FISHERIES, INTERNATIONAL COMMISSION FOR THE

Japan-U.S.S.R.:
fisheries conference opened in Moscow on Mar. 2, 1964; May p. 43.
eighth annual conference, progress on; June p. 35.

NORTHWEST PACIFIC FISHERIES, INTERNATIONAL CONVENTION FOR THE

Japan-U.S.S.R.:
salmon and king crab quotas and fisheries regulations, negotiations concluded on; July p. 42.

NORTHWEST TERRITORIES

Canada's fishery resources surveyed; Mar. p. 47.

NORWAY

Canned fish exports:
annual data; May p. 69, June p. 53.
current data; Jan. p. 66, Feb. p. 78, Mar. p. 66, Apr. p. 66, July p. 70, Sept. p. 86, Oct. p. 74, Nov. p. 103.
Capelin fishery trends, 1964; Dec. p. 109.
Cod:
fishery trends, Mar.-Apr. 1964; June p. 52.
Lofoten fishery disappointing in 1964; Aug. p. 81.
Dogfish and basking shark:
agreement with Great Britain on fishing for; Dec. p. 109.
fishing to be continued off Great Britain; Sept. p. 88.
Echo-sounder, improved, offered by Norwegian firm; Aug. p. 82.
Fisheries fair, international, to be held at Trondheim in 1965; Oct. p. 75.
Fisheries trends; May p. 70, June pp. 52, 53, Sept. p. 87.
Fishing limits:
discussions between _____ and United Kingdom on; Sept. p. 49.
12-mile limit, modified, rejected; May p. 70.
Fish meal:
bulk, studies on handling in; Nov. p. 104.
production and exports; May p. 40, Oct. p. 44.
Fish stick plant to be established in New Bedford, Mass.; Apr. p. 67.
Foreign landings, _____ may relax ban on; May p. 70.
Herring:
catch, 1964; Dec. p. 108.
fisheries trends, Mar. 1964; May p. 70, June p. 52.
fish meal quality control studies; Nov. p. 103.
fish meal uniformity, mixing equipment designed to achieve; Nov. p. 104.
north coast, big run off; May p. 69.
prices; Dec. p. 109.
utilization; Dec. p. 108.
winter fishery, 1964; Dec. p. 108.
Indian Fisheries Institute, _____ to participate in; Sept. p. 87.
Indo-Norwegian fisheries development project continued; July p. 56.
Landings, fishery, and exports, 1963; Mar. p. 66.
Marine oils:
Antarctic whaling production, 1962/63 and 1963/64 season; Oct. p. 49.

NORWAY

Marine oils:
exports of unrefined, 1960-1963; July p. 72.
imports, selected, 1963; July p. 72.
supply and disposition, 1963 with comparisons; July p. 71.
Noise, gear, and engine, study of fish reaction to; May p. 71.
Nordic Fisheries Conference, ninth, attended by _____; Sept. p. 55.
Nordic, joint, fisheries limits considered; June p. 39.
Polish fisheries freezing and transshipment base in Haugesund in 1963; June p. 57.
Preservative for industrial fish, studies on nitrite as; Nov. p. 104.
Price supports for fisheries; Sept. p. 87.
Purse seiners for Chile, shipyard building four; June p. 54.
Salmon farming method developed in _____ attracts attention in United Kingdom; Nov. p. 115.
Sealing expedition to the Antarctic; Sept. p. 88.
Seal Commission, Norwegian-Soviet, sixth session held in Oslo; Feb. p. 65.
Seal, harp, in Northwest Atlantic, _____ participates in fishery for; Mar. p. 46.
Shrimp:
Swedish-Norwegian fishing agreement; Feb. p. 84.
vessels for Kuwait, shipyards to build; July p. 72.
State-controlled fish processing company, proposed refinancing of; Feb. p. 78.
Trawler, stern:
design produced by computer; Sept. p. 87.
factory-fishing type lands frozen processed catch in England; July p. 70.
Norwegian-built, first, launched for Ghana; Aug. p. 65.
Trout farming method developed in _____ attracts attention in United Kingdom; Nov. p. 115.
Vessel, fishing, construction for Ghana and Morocco; June p. 52.
Whale oil:
Antarctic production, Feb. 8, 1964; Apr. p. 68.
Whaling:
fleet composition for 1963/64 Antarctic season; Mar. p. 38.
industry encouraged by higher oil prices; Jan. p. 65.
industry trends; May p. 70, June p. 52.
Netherlands catcher vessels, _____ acquires two; Oct. p. 73.
withdrawal from Convention proposed again; Jan. p. 67.

NUTRITION

Animal _____, views on use of fish meal and oil in; Dec. p. 47.
Animal and poultry _____, fish reduction products use highly regarded in; May p. 23.
Commercial Fisheries, Bureau of, composition and nutritive value of fishery products research program; Mar. p. 23.
Fishery products reaffirmed as nutritious and healthful; Sept. p. 32.
Industrial fishery products use in poultry and animal _____ highly regarded; May p. 23.
International Federation for the Progress of Food first congress to be held in Paris; Apr. p. 45.

OCEAN CATFISH

Greenland's fishery, 1963; Nov. p. 87.

OCEANOGRAPHY

Aquatic Research Institute established at Stockton, Calif., to study estuarine areas of Asia and California; Feb. p. 40.

Atlantic Ocean:

Gulf of Maine hydrographic-plankton survey; May p. 28.

Institute of Marine Science research vessel returns from equatorial investigations; Sept. p. 34. instrument, new, effective aid in ocean-bottom studies in Northern area; Sept. p. 35.

international cooperative investigations of Equilant III, plans for; Apr. p. 46.

larval specimens of tuna, swordfish, and marlin collected in tropical area; Nov. p. 48.

"Bathymograph" measures speed and depth of fishing net; Feb. p. 32.

Canada's vessel for _____ research commissioned; Aug. p. 58.

Caribbean Sea bottom under study; Jan. p. 28.

Coast and Geodetic Survey, U. S., Indian Ocean investigations by research vessel "Pioneer"; Sept. p. 33.

Coast Guard, U. S., cutter "Ingham" occupies ocean weather station; Sept. p. 35.

Commercial Fisheries, U. S. Bureau of: EQUALANT III, research vessel "Geronimo" participates in; Apr. p. 47.

research vessel "Townsend Cromwell" completes successful maiden voyage; May p. 13.

Communist China Aquatic Products Society founded; June p. 39.

Cromwell Current, "lost" part found of; Jan. p. 73.

Duke University acquires new research vessel; Jan. p. 27.

Film:

color motion picture released; Mar. p. 17.

U. S. Navy produces one; Feb. p. 16.

Fish reaction to gear and engine noise studied in Norway; May p. 71.

German Federal Republic research vessel, new; Feb. p. 68, Aug. p. 63.

Gulf of Guinea:

fishery-_____ studies by M/V "Geronimo," results of; Nov. p. 57.

research vessel "Geronimo" makes new discoveries; July p. 24.

India:

research program under International Indian Ocean Expedition; Aug. p. 52.

Indian Ocean:

explorations by the "Atlantis II" completed; Jan. p. 26.

explorations by the "Pioneer"; Mar. p. 23. international expedition, research vessel "Anton Bruun" participation in; Sept. p. 16.

survey, Honolulu vessel finishes first phase of (M/V "Anton Bruun" cruise 2); Jan. p. 25.

Intergovernmental Oceanographic Commission Third Session meets in Paris, June 10-19, 1964; July p. 44.

Interior, U. S. Department of, educational grants for 1964 awarded by; May p. 28.

Japan:

unmanned _____ stations to be set up off coast; Feb. p. 75.

vessel, new ("Tansei Maru") delivered; Apr. p. 62.

OCEANOGRAPHY

Marine bioacoustic research may aid commercial fisheries; Apr. p. 28.

Marine biology, University of Miami receives new research grants for studies in; July p. 26.

Marine science programs, two New England Universities may add; July p. 25.

Marine scientists drill into ocean floor; May p. 83. Miami, University of:

billfish research cruise by research vessel of;

Sept. p. 28.

marine laboratory building, new, planned; July p. 27. vessels, research, not subject to union rules; Aug. p. 35.

National Academy of Sciences, comments on _____ included in address by the late President Kennedy to; Jan. p. 23.

Oceanic eddies southwest of Hawaiian Islands studied by M/V "Charles H. Gilbert"; Aug. p. 18.

Oceanographers:

employment outlook; Mar. p. 100.

exchange visits by United States and Soviet scientists; Nov. p. 50.

Federal educational requirements; Nov. p. 116.

Pacific Ocean:

"black current" or Kuroshio, international investigation planned of Japanese; Feb. p. 65, Dec. p. 104.

mountain of 14,000 feet discovered; Nov. p. 144. observations in coastal waters by research vessel

"George B. Kelez" in northeast area; July p. 24. trade wind zone studies in central area by M/V

"Townsend Cromwell"; Mar. p. 32, July p. 10, Aug. p. 17, Sept. p. 15, Oct. p. 22, Nov. p. 27, Dec. p. 34.

tuna, albacore, preseason oceanographic survey in eastern temperate area; Aug. p. 41.

water sampling studies in central area; Aug. p. 35. Platform with derrick, small portable marine work;

Nov. p. 50.

Puerto Rico Nuclear Center, marine biology program of; Apr. p. 27.

Research training grants, graduate, University of Rhode Island receives funds for; July p. 25.

"Rivers of Mud" at bottom of sea; Aug. p. 116.

Seabed and its underlying structure in Caribbean Sea, giant "echo-sounder" maps; Dec. p. 54.

Sea floor studies, grants awarded University of Miami for; Aug. p. 36.

Scientific Exploration of the Atlantic Shelf (SEAS), Committee for the; Jan. p. 24.

Shrimp, pink, migrations and bottom currents off Florida, seabed drifters released in study of;

Dec. p. 60.

Submarine, deep-diving, for Woods Hole Oceanographic Institution; Apr. p. 25, Aug. p. 36.

"Townsend Cromwell" M/V commissioned as new research vessel for U. S. Bureau of Commercial Fisheries; Mar. p. 32.

U.S.S.R. underwater craft designed for Barents Sea studies; July p. 76.

Vessels, research:

new one for biological research foundation; Apr. p. 27.

"Oceanographer" launched; June p. 23.

"Silas Bent" launched; Oct. p. 32.

"Thomas G. Thompson" launched; Oct. p. 32.

"Trident" completes first year of operation; Jan. p. 27.

OCEANOGRAPHY (cont.)

Vessels, research (cont.):

"Yaquina" commissioned by Oregon State University; Dec. p. 55.

Woods Hole Oceanographic Institution's new research laboratory dedicated; July p. 25.

OCEAN PERCH

Fillets, U. S. Tariff Commission hearings on exclusion from tariff modification of; Feb. p. 91.

Maine:

growth rate studies; Sept. p. 35.

landings, Jan.-Aug. 1964; Dec. p. 63.

tagged _____, annual check of; Sept. p. 35.

Massachusetts landings, Jan.-Sept. 1964; Dec. p. 63.

North Pacific concentrations found during survey by M/V "John N. Cobb"; July p. 23.

Quality of _____ held in refrigerated sea water tested; Mar. p. 24.

Recipe--Ocean perch German potato pancakes; July p. 108.

Trawl nets, _____ gilling by, studied; June p. 19.

OCTOPUS

Canada's fishery resources of far north surveyed; Mar. p. 47.

OHIO

Lake Erie commercial fishery landings 1963; July p. 27.

OIL EXPLORATIONS

United Kingdom discusses danger to fisheries from _____ in North Sea; Oct. p. 80.

OIL, MARINE-ANIMAL. (also see FISH OIL)

Antarctic whale oil and sperm oil production, 1962/63 and 1963/64 season; Oct. p. 49.

Canada's production, utilization, and foreign trade; Aug. pp. 56, 57, Dec. p. 84.

Denmark's foreign trade in _____, 1962-1963; July p. 52.

German Federal Republic's foreign trade in _____, 1962-1963; Aug. p. 62.

Italy's foreign trade in _____, 1962-1963; Oct. p. 60.

Japan:

foreign trade in edible and inedible _____, 1962-1963; Aug. p. 74.

supply and disposition, 1962-1963 and 1964 forecast; Aug. p. 74.

Low-cost _____, small fish used to make; Nov. p. 14.

Netherlands:

foreign trade, 1962-1963; Aug. p. 81.

industry trends, 1963; July p. 69.

supply and disposition, 1963 with comparisons; Aug. p. 79.

Norway:

exports of unrefined _____, 1960-1963; July p. 72.

imports of selected _____, 1963; July p. 72.

supply and disposition of _____, 1963 with comparisons; July p. 71.

Peru's supply and disposition, 1961-1963 and 1964 forecast; Aug. p. 83.

South Africa Republic's production of _____, 1962-1963; Nov. p. 110.

United Kingdom:

imports of _____, 1962-1963; Oct. p. 80.

utilization of _____ in margarine, 1962-1963; Oct. p. 81.

OIL, MARINE-ANIMAL

Whale, baleen:

Japan:

Antarctic production, 1963/64; Sept. p. 80.

sales by whaling firms; Mar. p. 61.

OKINAWA (see RYUKYU ISLANDS)

OREGON

Federal funds allocated for fisheries program; Sept. p. 18.

Fish and wildlife kills being investigated by U. S. Public Health Service; July p. 29.

Fish behavioral flume built on Grande Ronde River; Sept. p. 38.

Fish disease study center opened; July p. 28.

Halibut and sole tagging and migration studies by Fish Commission; Sept. p. 19.

Medical help, emergency, instructions for fishermen; Nov. p. 58.

Oceanography:

"Yaquina," research vessel, commissioned by State University; Dec. p. 55.

Salmon:

Columbia River tributaries, survey in 1964 of spawning spring chinook in selected; Dec. p. 37.

egg take in 1963 sets new record; Mar. p. 24.

escapement aided by brief industrial plant shutdown at Willamette Falls; Oct. p. 33.

Metolius Hatchery closes and experimental hatchery station opens; Nov. p. 51.

Northwest rivers receive record plants of silver and spring chinook yearlings; June p. 25.

record release of silvers from State hatcheries; July p. 27.

Sandy River runs, silver transplants may help rebuild; Dec. p. 56.

Willamette River, upper, massive program to introduce fall chinook run in; Apr. p. 30.

Scallop resources off coast of _____ surveyed; Jan. p. 22.

Steelhead trout planted in Yamhill River; Aug. p. 36.

Tuna, albacore, exploratory cruise conducted by _____ Fish Commission; Sept. p. 42.

ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT

Fisheries Committee meeting; Jan. p. 40, Apr. p. 48, May p. 45, Sept. p. 56, Nov. p. 71.

Fishery technologists meeting; July p. 43, Dec. p. 81.

Japanese Fisheries Agency studying measures to cope with _____ recommendations; Oct. p. 72.

Japan joins; Aug. p. 53.

Promotional materials on fish planned through _____; Oct. p. 48.

Subsidies, fishing industry, position adopted on; Oct. p. 48.

OTTER TRAWLS

Shrimp _____ in Gulf of Mexico, U. S. utilization of, 1959-1961; Feb. p. 1.

OUTBOARD MOTORS

Fishing efficiency of traditional craft in six countries, _____ increase; July p. 40.

OYSTERS

Australia proposes standards; Nov. p. 79.

Canada's British Columbia shucked production, 1963; Apr. p. 52.

OYSTERS (cont.)

- Disease-resistant breeding stock; Sept. p. 36.
 Disease resistant strains, development of; Nov. p. 52.
 Frozen, Japan's 1964 pack for export to U. S.; Aug. p. 74.
 Gulf of Mexico growth experiments with suspended _____; Mar. p. 20.
 Harvest in spring months suggested; May p. 29.
 Louisiana fishery trends, 1963; Nov. p. 38.
 Maryland:
 observations for 1964; Oct. p. 34.
 spawning and setting in 1963, studies indicate favorable conditions for; Feb. p. 33.
 MSX disease, developments reported by scientists on; Sept. p. 36.
 Netherland's industry declines; Feb. p. 77.
 Pearl, cultured, quality improved by use of antibiotic; Sept. p. 81.
 Raft culture; Aug. p. 103.
 Recipe--Maryland pan-fried; May p. 11.
 South Africa industry requests quality specification; Sept. p. 95.
 South Carolina:
 feeding, supplemental, experiments; Feb. p. 47.
 studies, Jan.-Mar. 1964; May p. 33, Nov. p. 55.
 Tray rack for the study of _____, design and operation of a; Dec. p. 21.
 Virginia James River seed beds, light strike in 1964 in; Nov. p. 51.

PACIFIC COAST

- Fishery products, more, used in U. S. in 1963; May p. 34.
 U. S. commercial fisheries on _____; Nov. Suppl. p. 35.
 Whaling licenses on _____; June p. 64.

PACIFIC HALIBUT COMMISSION, INTERNATIONAL Halibut:

- Bering Sea catch in Area 3B North Triangle, Mar. 28, 1964; May p. 43.
 fishing in Area 3A ended Aug. 19, 1964; Oct. p. 46.
 fishing restrictions proposed; Aug. p. 49.
 North Pacific fishing ended Nov. 30, 1963; Feb. p. 64.
 North Pacific regulations for 1964; May p. 43.
 Regulations revised; Jan. p. 75.
 Special meeting held in June 1964; July p. 42.

PACIFIC NORTHWEST

- Bottomfish trawling survey off Washington coast by M/V "John N. Cobb," cruise 65; Sept. p. 31.
 Japanese fishery observers visit _____; Sept. p. 37.
 Midwater trawl tests successful in _____ hake fishery; Aug. p. 23.
 Oceanographic observations in coastal waters by "George B. Kelez"; July p. 24.
 Salmon tagging project, high seas, in North Pacific planned; July p. 30.

PACIFIC OCEAN

- "Black current" or Kuroshio, international investigation planned of; Feb. p. 65.
 Eastern north _____, Japanese plan for 1964 trawl operations in; Mar. p. 60.
 Mountain of 14,000 feet discovered in _____; Nov. p. 144.
 Oceanic eddies southwest of Hawaiian Islands studied; Aug. p. 18.

PACIFIC OCEAN

- Research vessel "Townsend Cromwell" completes successful maiden voyage in _____; May p. 13.
 Tagging program in eastern _____, marlin and sailfish cooperative; Sept. p. 41.
 Trade wind zone oceanographic studies continued by M/V "Townsend Cromwell"; Mar. p. 32, July p. 10, Aug. p. 17, Sept. p. 15, Oct. p. 22, Nov. p. 27, Dec. p. 34.
 Tuna:
 albacore movement off the Pacific Coast in 1963, review of; Dec. p. 13.
 Japanese:
 equatorial _____ fishing trends, Nov. 1963; Feb. p. 73.
 purse-seining experiment in _____ unsuccessful; July p. 59.
 research vessel to survey resources in eastern _____; Nov. p. 89.
 Palau Islands, fishing base planned by California firm in; Apr. p. 32.
 yellowfin fishing regulations proposed for eastern _____; July p. 82.
 U.S.S.R. electronic fishing gear for catching saury in _____; July p. 76.

PACIFIC TRADE WIND ZONE OCEANOGRAPHIC PROGRAM

- "Townsend Cromwell" to participate in _____; Mar. p. 32.

PACIFIC TRUST TERRITORY

- Caroline Islands, commercial fisheries project makes headway in; Aug. p. 16.

PACKAGING

- Irradiation, Food and Drug Administration issues new food additive regulation concerning _____ materials for foods preserved by; Oct. p. 84.
 Irradiation, _____ requirements for fishery products preserved by; Oct. p. 34.
 Irradiation, plastic films tested as _____ materials for fishery products preserved by; Oct. p. 34.
 Metal food container as the regulatory official sees it; June p. 88.

PAKISTAN

- Fish processing plant, new, established at Karachi; Mar. p. 66.
 Outboard motors provided by FAO project; July p. 41.
 Shrimp:
 processing capacity of plants in Karachi; Aug. p. 82.
 producing costs; May p. 71.
 Sweden helps _____ mechanize small fishing craft; July p. 41.
 Territorial waters extension to 12 miles advocated; Jan. p. 67.

PALAU ISLANDS (see CAROLINE ISLANDS)

PANAMA

- Fisheries trends, 1963; Apr. p. 68.
 Lobster, spiny:
 exploratory fishing project concluded (M/V "Pelican" cruise 16); Feb. p. 78.
 fishery trends; Sept. p. 89.
 Scallop fishery trends; Sept. p. 89.
 Shrimp fishery trends, 1963; Sept. p. 88.

PANAMA (cont.)

Tuna fishing regulations for foreign vessels in Panamanian waters; Nov. p. 104.

PEARL(S)

Australian _____ culture industry developing; Dec. p. 158.
Cultured _____ quality improved by use of antibiotic; Sept. p. 81.
Japan produces commercial quality _____ from freshwater mussels; Jan. p. 59.

PELAGIC FISH

California:
hake, adult, distribution and abundance in southern area and northern Mexico studied by M/V "John N. Cobb"; June p. 21.
population survey continued; Feb. p. 12, Mar. pp. 10, 12, Apr. p. 12, June pp. 11, 12, Sept. p. 14, Oct. pp. 15, 17, Nov. p. 24, Dec. pp. 28, 29.
Experimental fishing in North Pacific with "Cobb" pelagic trawl (M/V "St. Michael" cruise 2); Nov. p. 47.
Larval specimens of tuna, swordfish, and marlin collected in the South Atlantic; Nov. p. 48.
Pacific, Central, population studies continued; June p. 12.

PERSIAN GULF

Commercial fishery in southern area to be developed by British firm; Dec. p. 109.
Fisheries development in _____ proposed by FAO; Mar. p. 37.

PERU

Anchoveta record catch forecast in 1964; Apr. p. 70.
Canning, fish, industry responds to tax concessions; May p. 71.
Catch, fisheries, off in 1963; Apr. p. 71.
Exports of principal marine products; May p. 71, Oct. p. 76.
Fishing industry long-range forecast; Feb. p. 79.
Fish meal:
export agreement extended; Feb. p. 80.
exports by country of destination; June p. 54, Nov. p. 105.
exports, estimated, 1963; Feb. p. 79.
exports forecast, 1964; Aug. p. 82.
industry trends; Jan. p. 67, June p. 54, Nov. p. 105.
Japanese imports from _____ approved; Apr. p. 61.
long-range forecast for; Feb. p. 79.
outlook for industry; Nov. p. 105.
production and exports; May p. 40, July p. 72, Aug. p. 82.
supply situation; Nov. p. 105.
Fish oil:
exports by country of destination, Jan. 1-May 15, 1964; Nov. p. 106.
exports, estimated, 1963; Feb. p. 79.
supply and disposition, 1961-1963 and 1964 forecast; Aug. p. 83.
International Association of Fish Meal Manufacturers conference stresses quality; Jan. p. 39.
Marine oil supply and disposition, 1961-1963 and 1964 forecast; Aug. p. 83.
Sperm oil exports, 1963; Aug. p. 83.
U. S. fishery firm to expand Peruvian facilities; Apr. p. 71.
Whale oil exports 1963; Aug. p. 83.

PESTICIDES

Commercial fisheries endangered by use of _____ says Interior Secretary; June p. 23.
DDT resistance seen in minnow-like fish; Feb. p. 58.
Interior Department lands, stringent rules ordered in use of _____ on; Nov. p. 52.
Mississippi River fish kill, _____ endrin blamed in; Sept. p. 37.
Sport Fisheries and Wildlife, U. S. Bureau of, responsibility for field surveillance on effects of _____ on fish and wildlife; Dec. p. 56.

PET FOOD

Australia exporting _____ to the U. S.; Nov. p. 79.
Maryland firm, ARA industrial loan approved to; July p. 81.

PHILIPPINES

Fishing industry development spurred by change in Government import policy; Nov. p. 106.
Investment opportunities in fishing industry; Aug. p. 32.
Mackerel, canned, award; Jan. p. 68.
Sardines:
canned:
imported product, _____ Government opened another bid on; Aug. p. 83.
South African product, _____ President approves purchase of; June p. 55.
Shrimp exports, 1963; Dec. p. 110.
Tuna, skipjack, Japanese test purse-seining off _____ for; May p. 61.

PILCHARD

South Africa Republic:
fishery, 1963; May p. 72.
fishery trends; July pp. 73, 74, Oct. pp. 76, 77, Dec. p. 112.
South-West Africa:
fishery, Jan.-June 1964; Dec. p. 113.
fishing industry trends, FY 1963; Dec. p. 113.
quotas for 1963 and 1964 increased; Feb. p. 81.
season for _____ in 1963 sets record; Mar. p. 68.
Walvis Bay, season gets under way at; Aug. p. 84.

PLANKTON

Gulf of Mexico _____ sampling; May p. 21.
North Atlantic hydrographic-_____ survey in the Gulf of Maine; May p. 28.
South Carolina studies, Jan.-Mar. 1964; May p. 33.
Studies on _____ give clues to Indian Ocean-Atlantic Zoogeographical relations; May p. 14.

POLAND

Canary Islands fishing base reported planned by _____; Apr. p. 71.
Cold-storage plant in the United Kingdom proposed; June p. 55.
Danish-Polish fishery relations; Apr. p. 53.
Exports of fishery products, 1956-1963; June p. 56.
Fisheries goals, 1964; June p. 55.
Fisheries landings, marine, in 1963; May p. 72.
Fisheries production goals, 1964; June p. 55.
Fisheries trends and exports in 1963; Sept. p. 90.
Fisheries trends in 1964; Sept. p. 90.
Fisheries trends, 1963; June p. 56.
Fish-processing facilities, investment planned in 1964 in; June p. 55.

POLAND (cont.)

- Fish meal production, 1963; Sept. p. 91.
- Imports of fishery products, 1956-1963; June p. 56.
- Landings, fisheries, Jan.-June 1964; Dec. p. 110.
- Landings of marine products and size of fishing fleet, 1962-63; Feb. p. 80.
- Landings, salt-water fish, 1963; June p. 56.
- Mothership, herring, will be dispatched to north-west Atlantic fishing grounds; June p. 55.
- Overseas bases, fishery, 1963; June p. 56.
- Transshipment base established at Ostend, Belgium, in Jan. 1964; June p. 55.
- Trawlers and factory-trawlers, large, shipyards building; May p. 71.
- Trawler sinks off Iceland; June p. 57.
- Trawling operations in Northwest Atlantic; Mar. p. 66.
- Trawling operations off Northwest Africa; Mar. p. 66.
- Vessels, fishing:
 - completed, 1963 and first half 1964; Nov. p. 107.
 - construction program; Nov. p. 107.
 - construction to continue under large-scale building program; Nov. p. 107.
 - factoryship built in Poland delivered to U.S.S.R.; Mar. p. 71.
 - fleet, planned additions in 1964 to; June p. 55.
 - fleet, size of, 1950-1962; Feb. p. 80.
 - trawlers, specifications and description of, built in _____; Nov. p. 108.

POLLUTION

- Chesapeake Bay "fish-kill" controls established; Aug. p. 33.
- Louisiana fish kills, Public Health Service investigates more; Sept. p. 18.
- Milfoil control, conference on; May p. 30.
- Pesticide endrin blamed in Mississippi River fish kill; Sept. p. 37.
- Pesticides, use of, endanger commercial fisheries says Interior Secretary; June p. 23.
- Potomac River fish losses; Jan. p. 28.
- Sacramento River dam, antipollution, will improve fish runs in; Apr. p. 29.
- Water _____, fish killed by, 1963; Aug. p. 22.

POND CULTIVATION

- Shrimp studies in South Carolina; Feb. p. 49, Nov. p. 56.

POND CULTURE

- South Carolina finfish and shrimp cultivation studies, July-Dec. 1963; Feb. p. 49.

PORPOISE

- Fishermen's catch and gear ravaged by _____; May p. 103.
- Gulf of Mexico mammal, "bottle-nosed," often called dolphin; Sept. p. 9.

PORT FACILITY

- Rockland Harbor, Maine, ARA technical assistance project to study proposed deep-water _____ at; Oct. p. 82.

PORTUGAL

- Canned fish:
 - exports, 1962-1963; June p. 57.

PORTUGAL

- Canned fish:
 - exports, quarterly data; Feb. p. 80, Sept. p. 91.
 - pack, 1962-1963; June p. 57.
 - pack, quarterly data; Feb. p. 81, Sept. p. 92, Dec. p. 111.
- Cape Verde Islands, Japanese firm signs agreement for joint tuna venture in; July p. 58.
- Cod-fishing fleet in Northwest Atlantic serviced by supply ship; Mar. p. 67.
- Fisheries trends, Jan. 1964; Apr. p. 71.
- Freezer-trawlers, new, planned; Apr. p. 71.
- Loan fund to renovate fishing fleet; June p. 57.
- Refrigeration equipment supplied by British to modernize fishing industry; Oct. p. 76.
- Sardine, canned, supply reported adequate to meet demand; Jan. p. 68.
- South Africa, trawling operations off; May p. 72.
- Trawling fleet off Africa may be serviced by mothership; Mar. p. 67.
- Tuna, Japanese negotiate with _____ firm for base in West Africa; Sept. p. 72.

POTOMAC RIVER

- Fish kill in _____, mid-1963; Jan. p. 28.
- Research on waste material in _____ discussed at Chesapeake Bay research conference; Apr. p. 13.

PRESERVATION (also see IRRADIATION PRESERVATION)

- Frozen fish shelf life studied; Nov. p. 53.
- Irradiation _____:
 - Atomic Energy Commission fishery products irradiator at Gloucester (Mass.) dedicated; Dec. p. 57.
 - commercial implication for food _____; June p. 24.
 - fish at sea; Nov. p. 54.
 - food and _____; July p. 38.
 - oily fish tests indicate flavor and storage problems; Feb. p. 33.
 - portable equipment for use aboard M/V "Delaware" planned; Nov. p. 54.
 - sole, petrale, filets, acceptance tests conducted for; Nov. p. 54.
- Nitrite as preservative for industrial fish, Norwegian studies on; Nov. p. 104.
- Refrigerated sea water, quality tested of fish held in; Mar. p. 24.
- Smoking small fish, Canadian scientists develop new process for; Mar. p. 49.

PRIBILOF ISLANDS

- Fur seals harvested by U. S. Bureau of Commercial Fisheries; Sept. p. 20.
- Fur seal skin harvest, 1964; Nov. p. 30.

PRICES

- Wholesale _____ and indexes for edible fishery products; Jan. p. 35, Feb. p. 57, Mar. p. 33, Apr. p. 38, May p. 37, June p. 33, July p. 37, Aug. p. 45, Sept. p. 47, Oct. p. 42, Nov. p. 65, Dec. p. 67.

PROCESSED EDIBLE FISHERY PRODUCTS

- Foreign trade, U. S.; Jan. p. 34, Mar. p. 31, Apr. p. 37, May p. 35, June p. 31, July p. 36, Aug. p. 43, Sept. p. 45, Oct. p. 41, Nov. p. 63, Dec. p. 66.

PROCESSING (cont.)

Fish-gutting machine, new, offered by West German firm; Nov. p. 83.

Canada:

fish processing plant opens in Nova Scotia; Sept. p. 58.

Maritime Provinces, new fish _____ plants for; Jan. p. 45.

trade mission explores Latin American market for fish _____ equipment; May p. 47.

PROMOTION

Fish 'n Seafood Parade in Oct.; Oct. p. 106.

Organization for Economic Cooperation and Development plans materials for fish _____; Oct. p. 48.

PROTEIN EXTRACTION

Fish reduction industry, water purification and _____ process may be applied to; Aug. p. 61.

PUBLICATIONS

Listings and reviews, Fish and Wildlife Service

_____; Jan. p. 82; Feb. p. 94, Mar. p. 81, Apr.

p. 82, May p. 84, June p. 72, July p. 93, Aug.

p. 104, Sept. p. 110, Oct. p. 90, Nov. p. 124,

Dec. p. 128.

Listings and reviews, miscellaneous _____; Jan.

p. 84, Feb. p. 96, Mar. p. 82, Apr. p. 85, May

p. 86, June p. 74, July p. 96, Aug. p. 105, Sept.

p. 108, Oct. p. 92, Nov. p. 126, Dec. p. 130.

PUBLIC HEALTH SERVICE, U. S. (also see HEALTH EDUCATION, AND WELFARE, DEPARTMENT OF)

Fish kills in Louisiana, _____ aids in study of; Jan. p. 74, Sept. p. 18.

Lake Michigan, contract awarded for water research in; Apr. p. 17.

Medical help, emergency, instructions for fishermen; Nov. p. 58.

Oregon fish and wildlife kills being investigated; July p. 29.

PUERTO RICO

Marine biology program of Nuclear Center; Apr. p. 27.

Tuna firm, ARA industrial loan to; Oct. p. 82.

PUGET SOUND

Fish and wildlife resources of _____ and adjacent waters, survey of; Nov. p. 64.

PUMP

Unloading fishing vessels, "airlift" _____ being developed by Canada for; Mar. p. 48.

PURSE SEINING

Salmon _____ season opened July 1, 1964, in southeastern Alaska; Sept. p. 11.

PUSAN (see KOREA, REPUBLIC OF)

PYROPHOSPHATES

Canning king crab, effects of certain _____ on moisture retention in; Aug. p. 19.

QUAHOG (see CLAMS)

QUALITY

Halibut, Pacific, ex-vessel landings, evaluation of _____ of; Sept. p. 24.

QUALITY

New York State accepts USDI inspection for fish; Apr. p. 30.

Vessels, _____ improvement guidelines for troll salmon; Apr. p. 29.

RADIATION PRESERVATION (see IRRADIATION PRESERVATION; PRESERVATION)

RECIPES

Gourmet's guide to good eating; Nov. Suppl. outside back cover.

Haddock baked a la maritimes; June p. 71.

Halibut topped with french fried onion rings; Apr. outside back cover.

Ocean perch German potato pancakes; July p. 108.

Oysters, Maryland pan-fried; May p. 11.

Salmon savory salad; Sept. outside back cover.

Scallops amandine; Dec. p. 116.

Shrimp _____; Feb. p. 6, Nov. outside back cover.

REFRIGERATED SEA WATER

Quality of fish held in _____ tested; Mar. p. 24.

REFRIGERATION

Freezing of fishery products, technical symposium on; Feb. p. 42.

Vessel _____ systems, Canadian developments in; Mar. p. 48.

RESEARCH

Canada awards ten scholarships in fisheries fields; Aug. p. 58.

Chesapeake _____ Council organized; Sept. p. 17.

Great Lakes new _____ station on Lake Huron; Aug. p. 58.

RESOURCE MANAGEMENT

Japanese study tuna problems confronting fishing industry; Nov. p. 90.

RHODE ISLAND, UNIVERSITY OF

Oceanography research training grants, funds received for graduate; July p. 25.

Quahog research in Narragansett Bay conducted by _____; Sept. p. 17.

Research vessel "Trident" completes first year of operation; Jan. p. 27.

Sports fishing research laboratory to be built on _____ property; Feb. p. 50.

RICE FARM PONDS (see FISH FARMING)

ROE

Herring:

Alaska _____ being readied for shipment to Japan;

Aug. p. 13.

harvest of _____-on-kelp ends in Apr.; July p. 8.

ROUGH FISH

Tennessee removal program, Apr.-June 1964; Dec. p. 61.

ROMANIA

Trawler, stern, built in Japan for _____; Mar. p. 67,

Apr. p. 72, May p. 62, July p. 65.

RUTGERS UNIVERSITY

Oysters, development of disease-resistant strains of; Nov. p. 52.

RYUKYU ISLANDS

- Japanese trawlers, use of Okinawans on; Dec. p. 102.
- Tuna:
 - fisheries agreement with Japan, Government seeks changes in; Dec. p. 111.
 - fishing fleet increasing; Jan. p. 67.

SABLEFISH

- Alaska landings for 1963; Apr. p. 9.
- North Pacific demersal fish survey by M/V "John N. Cobb" yields good catches; July p. 23.
- Smoked cured _____, petition to Food and Drug Administration to use sodium nitrate and sodium nitrite in; Dec. p. 117.

SAILFISH

- Tagging, Pacific area cooperative marine game fish program; Sept. p. 41.

SALMON

- Alaska:
 - canned pack, 1964; Dec. p. 23.
 - canned pack, 1963; June p. 9.
 - eggs processed as red caviar for Japan; Oct. p. 13.
 - harvest not jeopardized by earthquake damage; June p. 8.
 - Japanese vessels, handling and processing of Prince William Sound _____ aboard; Nov. p. 15.
 - Karluk Lake escapement, Aug. 1964; Nov. p. 19.
 - Kodiak plant processing operations following earthquake; Nov. p. 17.
 - landings lower in 1963; Apr. p. 9.
 - landings, 1964; Dec. p. 63.
 - migration studies of juvenile fish; Nov. p. 20.
 - waste utilization from _____; Oct. p. 13.
- Atlantic fishery; Dec. p. 82.
- Atlantic restoration studies; Apr. p. 30.
- California:
 - hatchery losses due to food problem; Dec. p. 30.
 - Sacramento River, antipollution dam will improve fish runs in; Apr. p. 29.
- Canada:
 - British Columbia canning industry asks for tariff reduction at 1964 GATT negotiations; July p. 48.
 - east coast escapement improved in 1963; Mar. p. 45.
 - Gulf of Alaska, studies in; Mar. p. 46.
 - restocking program for _____ and trout in Quebec; Dec. p. 88.
 - Strait of Georgia, tagging program in the; Feb. p. 67.
 - tagging on Atlantic Coast; Aug. p. 55.
 - tagging program for chinook and silver in British Columbia; Aug. p. 55.
- Canned:
 - Canada:
 - British Columbia pack lower in 1963; Jan. p. 43.
 - pink market trends, Japanese views on; July p. 62.
 - Japan:
 - Australia, _____ sold to; June p. 44.
 - export prices; Dec. p. 100.
 - Great Britain, _____ sold to; Dec. p. 100.
 - pack of land-based canners down; Sept. p. 75.
 - pink export prices in Japan; Aug. p. 70.
 - Cannery site of first Pacific Coast plant designated national historic landmark; June p. 25.
- Chinook:
 - Columbia River fall returns in 1964; Dec. p. 36.

SALMON

- Chinook:
 - Columbia River tributaries, Oregon survey in 1964 of spawning spring fish in selected; Dec. p. 37.
 - Northwest rivers receive record plant of spring yearlings; June p. 25.
 - Washington State Yakima River, excessive fishing damages run in; Dec. p. 67.
 - Willamette River, massive program to introduce fall fish in upper; Apr. p. 30.
- Chum:
 - Alaska:
 - nursery areas discovered by M/V "Heron"; Oct. p. 14.
 - purse-seining season in southeast may be best in year; Sept. p. 11.
 - spawning in intertidal zone; Nov. p. 20.
 - hatchery-reared fry, Russian theories on the inferior quality of; Nov. p. 143.
 - Japan buys from Alaska; Oct. p. 67.
 - Japanese ex-dock price; Dec. p. 100.
 - spawning channel, Abernathy, proves effective for reproduction of _____; Dec. p. 20.
 - Coho nursery areas in Alaska discovered by M/V "Heron"; Oct. p. 14.
- Columbia River:
 - migration patterns revealed by marking program; Oct. p. 35.
 - summer fishery postponed; Aug. p. 37.
 - Escapement aided by brief industrial plant shutdown at Willamette Falls, Oreg.; Oct. p. 33.
 - Gill nets, monofilament and multifilament, comparison of catches in, Part II; Oct. p. 1, correction-- Dec. p. 68.
 - Hatchery techniques, new; Apr. p. 39.
 - Icelandic _____ farm, investment opportunity in; Oct. p. 58.
 - Industry-Government promotion campaign; July p. 29.
- Japan:
 - Alaska, purchases as of Aug. 7, 1964, from; Oct. p. 66.
 - Alaska _____, postponement requested in sale of; Dec. p. 100.
 - Alaskan _____ sale to Japan completed; Oct. p. 68.
 - catch by mothership fleets; Aug. p. 71.
 - catch for Area B expected to be at record low; Sept. p. 75.
 - factoryship, new, to be built; Apr. p. 61.
 - fishermen for _____ request tuna fishing licenses; Aug. p. 71.
 - gill nets, monofilament, used in North Pacific fishery; May p. 61.
 - hatchery facilities for _____, plans doubling; Feb. p. 75.
 - Hokkaido canners hard hit by poor catch; Sept. p. 75.
- North Pacific:
 - catch as of mid-June 1964; Sept. p. 75.
 - mothership fishery for 1964; Sept. p. 75, Oct. pp. 68, 69.
 - mothership prices; Aug. p. 70, Oct. p. 69.
 - U.S.S.R., negotiation concluded with; July pp. 42, 62.
 - prices paid for first _____ landings, May 1964; July p. 61.
 - prices with vessel owners, Japanese negotiate; July p. 61.
 - quota allotment for fishery and fleet composition; July p. 62.
 - U.S.S.R., fisheries negotiations concluded with; July pp. 42, 62.

SALMON (cont.)

King:

Alaska Cook Inlet closed to fishing in 1964; Feb. p. 10.

growth and life history of _____ investigated by Calif. M/V "Nautilus"; Apr. p. 12.

intermingling of U. S. and Canadian Pacific fish under study; Mar. p. 37.

North Pacific:

Aleutians, western, migration studies of; Oct. p. 36.

gill nets, monofilament and multifilament, comparison of catches in--Part II; Oct. p. 1, correction--Dec. p. 68.

high seas tagging planned by U.S. Bureau of Commercial Fisheries; July p. 30.

winter distribution and tagging by M/V "George B. Kelez"; July p. 30.

Oregon:

egg take in 1963 sets new record; Mar. p. 24.

fish disease study center, new, primarily concerned with juvenile _____ and steelhead in hatcheries; July p. 28.

flume, new fish behavioral, built for _____ in Northwest; Sept. p. 38.

Metolius Hatchery closes and experimental hatchery station opens; Nov. p. 51.

Sandy River runs, silver _____ transplants may help rebuild; Dec. p. 56.

Pacific intermingling under study, U. S. and Canada; Mar. p. 37.

Pink:

Alaska:

adult run, new, transported into Sashin Creek; Dec. p. 24.

concentration, large, indicated off southeast coast; Sept. p. 12.

egg deposition success varies in Sashin Creek; Mar. p. 9.

Kodiak has excellent season; Nov. p. 16.

nursery areas discovered by M/V "Heron"; Oct. p. 14.

Olson Creek run as of Aug. 1964; Nov. p. 20.

southeast egg survival rate considered good; June p. 10.

transplanting of live fish at Little Port Walter; Nov. p. 20.

workshop meets in Juneau; Apr. p. 9.

Canada transplants Pacific fish to Atlantic coast; Mar. p. 44.

Japan:

buys from Alaska; Oct. p. 67.

Hokkaido packers begin packing; Aug. p. 71.

mothership firms to consign sales of Alaskan pinks to land-based Packers Association; Nov. p. 81.

Quality improvement guidelines for troll vessels; Apr. p. 29.

Recipe for savory salad; Sept. outside back cover.

Recipe--"shannon" steaks; Mar. p. 101.

Red (see Sockeye)

Research in North Pacific by Canada and United States; Mar. p. 22.

Silver:

Columbia River returns in 1964; Dec. p. 36.

intermingling of U. S. and Canadian Pacific fish under study; Mar. p. 37.

Northwest rivers receive record plant of yearlings; June p. 25.

SALMON

Silver:

Oregon State hatcheries, record release from; July p. 27.

Sockeye (red):

Alaska:

Bristol Bay 1964 run fails; Oct. p. 13.

escapement of adults to Karluk Lake as of Aug. 1964; Nov. p. 19.

fry availability of _____ low during summer; Dec. p. 24.

Karluk River spawning verified; Feb. p. 11.

outmigration of smolt at Naknek Lake system; Nov. p. 19.

serological sampling at Copper River; Nov. p. 19.

spawning population, large, discovered in Naknek River; Feb. p. 11.

Bristol Bay:

forecast of run for 1964; May p. 12.

Fraser River losses investigated; June p. 24.

regulations for 1964 fishery in North Pacific; Apr. p. 45.

Tagging, cooperative United States-Canadian program for; Dec. p. 59.

U.S.S.R.:

catch, 1963; June p. 60.

farming of _____ in Latvia; Apr. p. 74.

new species of _____ and sturgeon, Soviet scientists develop; May p. 76.

Pacific hatcheries and fisheries; July p. 75.

United Kingdom, farming method developed in Norway attracts interest in; Nov. p. 115.

Washington:

fish farm, new, established by cooperative effort; May p. 31.

planting program continues; July p. 36.

sport fishermen catch in 1963; May p. 37.

tagging in Puget Sound continued; Aug. p. 45.

SALMONELLA

International Atomic Energy Agency:

recommendations made to prevent _____ in foods and animal feeds; Sept. p. 53.

SALMON FISHERIES COMMISSION, INTERNATIONAL PACIFIC

Salmon, sockeye:

Fraser River losses investigated; June p. 24.

regulations for 1964 in North Pacific; Apr. p. 45.

SAN FRANCISCO

Bay studies continued by research vessel M/V "Nautilus"; Nov. p. 21.

SANITATION

Clams, soft, _____ quality study in Middle Atlantic area; Oct. p. 23.

Minnesota regulations for fish-processing establishments; July p. 20.

National Shellfish Workshop, Fifth, to be held Nov. 17-19, 1964; Oct. p. 36.

SAN PEDRO FISHERMEN'S FIESTA

President lauds _____; Dec. p. 127.

SARDINES

Canned:

Dominican Republic prices reduced; Mar. p. 53.

Jamaica market; Jan. p. 54.

SARDINES (cont.)

Canned (cont.):

Japanese exports, Apr.-Oct. 1963; Jan. p. 57.

Maine:

Bureau of the Census survey of distributors stocks of canned foods will include ____; Jan. p. 74.

can, new easy-open aluminum, developed for ____ industry; Aug. p. 15.

canning season opens; June p. 18.

National Boy Scout Jamboree, ____ served at; Sept. p. 28.

pack, 1963; Feb. p. 43.

stocks; Jan. p. 20, Mar. p. 22, July p. 19, Sept. p. 27, Oct. p. 29.

World's Fair display; June p. 19.

Malaysia's imported ____, market trends for; Feb. p. 75.

market trends and exports, 1963; Apr. p. 65.

Morocco:

loans receive renewed partial guarantee from Government; Nov. p. 103.

market trends, 1963; Mar. p. 64.

Philippine Government opened another bid on imported ____; Aug. p. 83.

Portugal's supply reported adequate to meet demand; Jan. p. 68.

Ivory Coast fishery, new development in; Sept. p. 70.

Morocco:

fisheries trends, first quarter 1963; July p. 68.

industry development project; May p. 68.

South Africa Republic:

Philippine President approves purchase of ____; June p. 55.

pilchard-maasbanker fishery, May-June 1964; Dec. p. 112.

Taiwan fisheries trends, Feb. 1964; June p. 58.

SAURY

Canned:

Japan:

exports, Apr.-Oct. 1963; Jan. p. 57.

exports for Aug. 1963-June 1964 and estimates for following business year; Oct. p. 70.

Hokkaido cannery sign advance purchase agreement with fishermen's association; Nov. p. 96.

Japan:

landings down sharply in 1963; Jan. p. 57.

production and export trends, late Nov. 1963; Feb. p. 75.

SAUSAGE (see FISH SAUSAGE)

SCALLOP(S)

Alaska:

exploratory fishing for ____ and shrimp by M/V "Paragon"; Oct. p. 13.

processing of ____ considered by new corporation in Juneau area; Mar. p. 8.

Australia:

bed, new, shows promise; Oct. p. 50.

catch on new grounds off Victoria; Oct. p. 50.

exports increase; Oct. p. 51.

exports planned, increase in; Nov. p. 76.

fishery expands; Nov. p. 77.

Tasmania season extended; Sept. p. 58.

Calico:

bottom grounds off Florida's east coast photographed by M/V "Silver Bay"; May p. 32.

SCALLOP(S)

Calico:

Florida:

distribution survey; Feb. p. 47.

survey by M/V "Silver Bay"; Jan. p. 29.

trawling survey off east coast by M/V "Silver Bay" yields ____; June p. 29.

Gulf of Alaska:

explorations, 1963; Mar. p. 1.

exploratory fishing by M/V "Paragon"; Nov. p. 19.

Irish grounds discovered; Aug. p. 66.

Oregon resources off coast surveyed by M/V "John N. Cobb"; Jan. p. 22.

Panama:

fishery trends; Sept. p. 89.

production in 1963 and potential; Apr. p. 69.

Sea:

Georges Bank population survey continued; Aug. p. 34, Dec. p. 51.

New England landings in 1963 and forecast for 1964; Feb. p. 36.

recipe for ____ amandine; Dec. p. 116.

shellfish favorite, a year-round; Dec. p. 116.

SCHOOL LUNCH PROGRAM

National School Lunch Week; Oct. p. 36.

SCOTLAND

Vessel, new fisheries research, for Federation of South Arabia being constructed in ____; Feb. p. 66.

SEA BREAM

Japanese council formed of long-line ____ fishery operators off New Zealand; Dec. p. 103.

SEA COW (see MANATEE)

SEAL(S) (also see FUR SEALS)

Canada:

harbor ____, Pacific Coast, bounty payments discontinued on; Sept. p. 59.

harp stocks decline; Mar. p. 45.

Harp and hood:

International Convention for the Northwest Atlantic Fisheries:

Canada ratifies protocol amendment; May p. 43.

Denmark and France ratify protocol amendment; Dec. p. 79.

Iceland ratifies protocol amendment; June p. 35.

Soviet Union ratifies protocol amendment; July p. 42.

Norway's sealing expedition to Antarctic; Sept. p. 88.

Norwegian-Soviet ____ Commission sixth session

held in Oslo; Feb. p. 65.

South Africa Republic and Territory of South-West

Africa catch, 1963; Nov. p. 111.

SEA LAMPREY (see LAMPREY, SEA)

SEA OTTER

California:

population determined by census; Aug. p. 15.

population survey; Apr. p. 12, May p. 13.

SEA SCALLOPS (see SCALLOPS)

SEAWEED (also see INTERNATIONAL SEAWEED SYMPOSIUM)

Artificial ____, Danish tests indicate shoreline may be protected by; Oct. p. 56.

SENEGAL

Fish landings up sharply in 1962; Jan. p. 68.
Shrimp fishery trends, 1964; Dec. p. 112.
Tuna vessels, four, to be purchased from British;
Nov. p. 109.

SHARK

Basking:
Norway signs agreement with Great Britain on
fishing for _____ and dogfish; Dec. p. 109.
Norway to continue fishing for _____ and dogfish
off Great Britain; Sept. p. 88.
Hatchery fish feed, Washington State firm to
process dogfish _____ into; July p. 37.
Hearing and related senses of _____ being studied
by Institute of Marine Science, University of
Miami; Dec. p. 59.
Mexico's Teacapan (Sinaloa) fishery; Aug. p. 78.
Prey detected by vibration; Oct. p. 108.
Smoked filets, Britain markets first shipment of;
Nov. p. 115.
Sound waves of low frequency may guide _____ to
food; Dec. p. 59.
Sport fishing for _____; June p. 7.
U.S. study, Japanese tuna long-line exploratory
cruise in Eastern Tropical Pacific aids; July p. 61.

SHELLFISH

Anesthetic may aid biological research; Aug. p. 37.
Labor Department, _____ processing industry to be
surveyed again by; Mar. p. 77.
Lake Erie _____ may have commercial value; Jan.
p. 28.
New York State, reclamation project in; Oct. p. 37.
North Pacific industry affected by recent disasters;
Oct. p. 37.
Sanitation:
Maine conducts research; Oct. p. 37.
National Shellfish Sanitation Workshop, fifth, to
be held Nov. 17-19, 1964; Oct. p. 36.
Scallop explorations in Gulf of Alaska, 1963; Mar.
p. 1.

SHRIMP (also see INTERNATIONAL SHRIMP COUNCIL)

Alaska:
canned pack, 1963; June p. 9.
exploratory fishing by M/V "Paragon"; Aug. p. 14,
Oct. p. 13, Nov. p. 17.
landings for 1963; Apr. p. 9.
pots with black mesh in vertical string fish _____
better; Feb. p. 11.
processing of _____ and crab started by new
corporation in Juneau area; Mar. p. 8.
trawling experiments yield heavy catches; May
p. 13.
Arabian Sea catches by R/V "Anton Bruun"; Nov.
Suppl. p. 27.
Aransas Pass, Tex., seasonal distribution patterns
of adult and larval _____ off, Jan.-Mar. 1964;
July p. 16.
Australia:
common names for _____; June p. 36.
exports increase; Oct. p. 51.
farming shrimp and tuna fishing, joint ventures
with Japanese considered in; Nov. p. 76.
fishery good in 1964; Nov. p. 76.
imports, duty on; Sept. p. 57.

SHRIMP (also see INTERNATIONAL SHRIMP COUNCIL)

Australia:
landings in fiscal year 1962/63 increase substan-
tially; Sept. p. 57.
Bait fisheries and postlarval abundance, surveys of;
Mar. p. 18, July p. 16.
Barbados fishery promising, outlook for; July p. 47.
Bay of Bengal catches by R/V "Anton Bruun"; Nov.
Suppl. p. 27.
Belgium-Luxembourg import quota and duty for
fresh and frozen cooked crab and _____, Jan. 1,
1964-Mar. 31, 1965; May p. 47.
Bering Sea:
Japanese factoryship also fishes for herring and
Pacific ocean perch; June p. 9.
Soviet vessels fish for _____ in; July p. 7.
Biology program in Gulf of Mexico, July-Sept. 1964;
Dec. p. 43.
British Guiana industry trends for 1963 and outlook
for 1964; Aug. p. 55.
California:
commercial quota off Crescent City-Eureka area
increased; Sept. p. 14.
distribution survey continued; Mar. p. 14.
resources off coast surveyed by M/V "Alaska";
Apr. p. 10.
resources survey in northern and central coastal
waters continued by M/V "N.B. Scofield"; Oct.
p. 18.
Canned:
Gulf States pack; Jan. p. 29, Feb. p. 43, Apr.
p. 32, May p. 31, June p. 27, July p. 33, Aug.
p. 37, Sept. p. 38, Oct. p. 37, Nov. p. 55,
Dec. p. 61.
Japan exports to Great Britain; Dec. p. 103.
Central and South America, portion of U.S. _____
fleet migrates to; Sept. p. 99.
Chicago, Ill.:
prices, wholesale, for frozen domestic brown
species (5-lb. pkg.); Jan. p. 29, Feb. p. 43,
Apr. p. 32, May p. 31, June p. 27, July p. 33,
Aug. p. 37, Sept. p. 38, Oct. p. 37, Nov.
p. 55, Dec. p. 61.
Costa Rica:
landings, 1963/64 season; Aug. p. 60.
Pacific fishery; Dec. p. 90.
Ecuador:
industry trends, 1963; Sept. p. 65.
producers hurt by lower prices in U.S. market;
Jan. p. 49.
Farming _____; Oct. p. 43.
French Guiana, U.S. firms continue to expand in;
Jan. p. 50.
Frozen:
futures trading, new contracts opened for; Apr.
p. 30.
inventories; Jan. p. 29, Feb. p. 43, Apr. p. 32,
May p. 31, June p. 27, July p. 33, Aug. p. 37,
Sept. p. 38, Oct. p. 37, Nov. p. 55, Dec. p. 61.
Japan:
inventory, high, traders concerned over; Jan.
p. 58.
market for _____; May p. 62.
Panama's production in 1963; Apr. p. 68.
raw breaded:
production, 1963; June p. 26.
standards of identity, public hearing on; Feb.
p. 88, Apr. p. 77.

SHRIMP (cont.)

- Frozen (cont.):
 Taiwan's exports, 1963; May p. 74.
 Greenland fishery trends, 1963-64; Nov. p. 85.
- Guatemala:
 catch, 1962-1963; June p. 40.
 Champerico industry trends; May p. 52.
 exports to United States in 1962; Mar. p. 55.
 fishing investment opportunity; Oct. p. 58.
 Japanese-Guatemalan joint operations; Oct. p. 58.
- Gulf of Mexico:
 Aransas Pass (Tex.) Inlet, study of seasonal distribution patterns of adult and larval _____ in, Oct.-Dec. 1963; Mar. p. 19.
 bait, surveys of postlarval abundance and fisheries for, July-Sept. 1964; Dec. p. 43.
 commercial catch sampling; July p. 16, Dec. p. 44.
 distribution studies; Jan. p. 14, Feb. p. 27, Apr. p. 19, May p. 22, July p. 14, Aug. p. 28, Sept. p. 23, Oct. p. 26, Nov. p. 34, Dec. p. 45.
 Florida Bay ecology studies, Oct.-Dec. 1963; Mar. p. 18.
 gear studies continued; Jan. p. 13, Feb. p. 22, Apr. p. 18, July p. 12.
 investigations by M/V "Oregon"; Apr. p. 17, May p. 21.
 larvae studies on distribution and abundance; July p. 15, Dec. p. 43.
 migrations, growth, and mortality of brown and white _____ studied; Mar. p. 18, July p. 17, Dec. p. 44.
 Mississippi Sound and adjacent waters, study of abundance of postlarval _____ in; Mar. p. 19, July p. 17, Dec. p. 44.
 population dynamics studies; Mar. p. 19, July p. 17, Dec. p. 44.
 royal-red investigations continued; July p. 13.
 Vermilion Bay (La.), seasonal distribution of postlarval _____ in; Mar. p. 19, July p. 17.
 Head and vein removing tool patented; Nov. p. 37.
 Imports; Jan. p. 29, Feb. p. 43, Apr. p. 32, May p. 31, June p. 27, July p. 33, Aug. p. 38, Sept. p. 38, Oct. p. 37, Nov. p. 55, Dec. p. 61.
- India:
 Cochin, new processing plant in; May p. 53.
 Japanese-Indian joint fishing firm concentrates on _____; Oct. p. 59.
- International Shrimp Council planned to promote consumption; Sept. p. 56.
- Japan:
 Alaska, fishing activity off; Sept. p. 10.
 Bering Sea fishery; July p. 63, Sept. p. 76.
 Guatemalan-Japanese fishing venture trends, Nov. 1963; Jan. p. 51.
 import trends; Aug. p. 74.
 Pribilof Islands, fishery north of; July p. 8.
 Surinam, fishing operations in; Oct. p. 79.
 trawler-cannery, stern, built for North Pacific fishery; Sept. p. 77.
- Korea, Republic of, farming of _____; Dec. p. 104.
- Landings, Jan.-Sept. 1964; Dec. p. 64.
- Louisiana fishery trends, 1963; Nov. p. 37.
- Mexico:
 fishery trends, 1963; Nov. p. 100.
 fishing seasons, opening of; Nov. p. 98.
 French Guiana, _____ vessels to fish for; June p. 51.
 Japanese propose joint venture with Guaymas fishing cooperatives; May p. 65.

SHRIMP

- Mexico:
 Kuwait, _____ vessels built for; Aug. p. 76.
 season for fishing _____, vessels leave Mazatlan to open; Dec. p. 105.
 vessel owners, Campeche, suffer from lower prices; Jan. p. 63.
 vessel tie-up at Mazatlan, possible effects of _____; July p. 68.
- Mississippi Sound:
 catch analyzed; May p. 25.
 post larval studies continued; Aug. p. 34.
- Nicaragua, El Bluff, U.S. fisheries firm begins processing at; Jan. p. 65.
- Nigerian resources promising; Sept. p. 86.
- Norwegian shipyards to build vessels for Kuwait; July p. 72.
- Pakistan:
 processing capacity of plants in Karachi; Aug. p. 82.
 producing costs; May p. 71.
- Panama fishery trends, 1963; Sept. p. 88.
- Peeling machinery, FTC bars discrimination in rentals and sales of; Aug. p. 88.
- Philippine exports, 1963; Dec. p. 110.
- Pink:
 California survey of resources in northern waters by M/V "Joseph Alioto"; Oct. p. 20.
 juvenile phase of the life history in the Everglades; Mar. p. 19, July p. 16, Dec. p. 43.
 larvae abundance and distribution on Tortugas grounds; Mar. p. 19, July p. 16, Dec. p. 43.
 marking study on Tortugas grounds; May p. 23.
 migrations, growth, and mortality of _____, Jan.-Mar. 1964; July p. 15.
 migration study off Florida, seabed drifters released in; Dec. p. 60.
- Pond cultivation studies in South Carolina; Feb. p. 49, Nov. p. 56.
- Postlarval studies indicate possible value as index of adult population; Feb. p. 44.
- Recipe for oven-fried curried _____ with hot marmalade soy dip; Nov. outside back cover.
- Recipes for _____; Feb. p. 6.
- Red _____ fishery, El Salvador encourages development of; Dec. p. 91.
- Rock _____, trawling survey off Florida's east coast by M/V "Silver Bay" yields; June p. 29.
- Royal red;
 bottom grounds off Florida's east coast photographed by M/V "Silver Bay"; May p. 32.
 Florida east coast, fishing good in June off; Sept. p. 39.
 potential fishing ground found off Caribbean coast of Colombia; Sept. p. 23.
 seasonal distribution survey continued (M/V "Oregon" cruise 88); Feb. p. 24.
- Senegal fishery trends, 1964; Dec. p. 112.
- South Africa Republic west coast, exploratory fishing off; Sept. p. 92.
- South Atlantic and Gulf port ex-vessel prices, all species; Jan. p. 29, Feb. p. 43, Apr. p. 32, May p. 31, June p. 27, July p. 33, Aug. p. 36, Sept. p. 38, Oct. p. 37, Nov. p. 55, Dec. p. 61.
- South Atlantic and Gulf States landings; Jan. p. 29, Feb. p. 43, Apr. p. 32, May p. 31, June p. 27, July p. 32, Aug. p. 38, Sept. p. 38, Oct. p. 37, Nov. p. 55, Dec. p. 61.
- South Carolina studies; Feb. p. 49, May p. 33, Nov. p. 56.

SHRIMP (cont.)

Supply indicators for U. S.; Jan. p. 29, Feb. p. 43, Apr. p. 32, May p. 31, June p. 27, July p. 32, Aug. p. 37, Sept. p. 38, Oct. p. 37, Nov. p. 55, Dec. p. 61.

Surinam, U. S.-owned firm's operations in; Oct. p. 79.

Taiwan:

exports increased in 1963; Feb. p. 84, exports, Jan.-June 1964; Dec. p. 114.

U. S. supply and disposition of _____ in 1963; June p. 26.

Vancouver Island, B. C., explorations by M/V "John N. Cobb," October-November 1962; June p. 1.

Venezuela processing plant, new; Feb. p. 87.

Vessels:

equipment sold to Colombia firm by U. S. company; May p. 15.

four new, delivered by Texas shipyard to Japanese firm in Surinam; June p. 58.

U. S. otter-trawl, in the Gulf of Mexico, utilization of, 1959-1961; Feb. p. 1.

Vietnam:

exports to Japan up in 1963; July p. 80.

exports to United States, 1963; July p. 80. fishing potential; May p. 72.

SIBERIA

Fresh-water fisheries of _____; Apr. p. 74.

SKIN DIVING

Intercom, underwater, permits skin divers to talk; July p. 92.

SMALL BUSINESS ADMINISTRATION

Alaska:

firm to receive loan funds from _____ instead of ARA; Mar. p. 76.

firms in earthquake disaster area receive loans; Aug. p. 97.

Disaster loans for hurricane-damaged areas; Dec. p. 125.

Great Lakes fishery firms, assistance for economic injury suffered by; Apr. p. 78.

Loans to New England commercial fisheries firms; Oct. p. 86, Dec. p. 125.

SMELT

Trawling explorations in Lake Erie, May-November 1960; Apr. p. 1.

SMOKED FISH

Canadian:

regulations; Apr. p. 51.

scientists develop new process for smoking small fish; Mar. p. 49.

Chub:

processing studies, status report on; Feb. p. 44, Sept. p. 39.

smoking, experimental, preliminary report on; Nov. p. 1.

SNAPPER

Trawling, good, possibilities for _____ noted off Caribbean coast of Colombia; Sept. p. 23.

SOLAR STILL

India, sea water purified by _____ in; May p. 104.

SOLE

Dover _____ growth studies conducted in Monterey Bay, Calif., Feb. p. 12.

English _____ growth studies in Monterey Bay, Calif., by M/V "Nautilus"; Oct. p. 14.

Pacific, North, migrations; Sept. p. 19.

Petrale:

irradiated filets, acceptance tests conducted for; Nov. p. 54.

migration studies and tagging off California by "N. B. Scofield"; Dec. p. 26.

SOMALI REPUBLIC

Delegation studies U. S. fishing industry; Jan. p. 68.

Fisheries group considers joint venture with U. S. firms; June p. 58.

Fish processing and freezing plant to be built in Alula as joint U. S.-_____ venture; June p. 58.

SOUNDS

Research on _____ may aid commercial fisheries; Apr. p. 28.

SOUND WAVES

Soviets claim marine groups can be identified by _____; Aug. p. 86.

SOUTH AFRICA REPUBLIC

Anchovies:

catches, remarkably good, made by fishing vessel; Aug. p. 84.

fishery, new, may develop rapidly; Nov. p. 110. resources off _____ coast explored; Sept. p. 92.

Canned fishery products, domestic consumption of leading, 1962-1963; Nov. p. 112.

Canned fishery products, production of leading, 1962-1963; Nov. p. 110.

Cannery, fish, planned for Angola by _____ interests; Mar. p. 40.

Chilean fish meal factory at Iquique dedicated as a joint venture with _____; May p. 48.

Consumption, domestic, of leading processed fishery products, 1963; Nov. p. 111.

Exports of fishery products, 1963; Oct. p. 77.

Fisheries development, early 1964; July p. 73.

Fisheries trends, early 1964; July p. 72.

Fish meal:

export quota for 1964 increased; Mar. p. 67.

Japanese association contracts to sell to; Jan. p. 69.

Japan to import from _____; July p. 67.

production and exports; May p. 40, Oct. p. 44.

production for 1964 sold or committed; Sept. p. 93.

production, 1962-1963; Nov. p. 110.

Japanese stern trawler, new, to fish off _____; May p. 63.

Landings, fishery, 1963; Sept. p. 96, Nov. p. 111.

Mackerel fishery, 1963; May p. 72.

Marine oil production, 1962-1963; Nov. p. 110.

Pilchard-maasbanker fishery trends; May p. 72.

July pp. 73, 74, Oct. pp. 76, 77, Dec. p. 112.

Portuguese trawling operations off _____; May p. 72.

Processed fishery products, production of leading, 1962-1963; Nov. p. 110.

Quality specifications for fishery products; Sept. p. 95.

Sardines, Philippine President approves purchase of; June p. 55.

Seal catch, 1963; Nov. p. 111.

Shrimp exploratory fishing off west coast; Sept. p. 92.

Spiny lobster fishing regulations amended; Sept. p. 93.

SOUTH AFRICA REPUBLIC (cont.)

- Trawl fishery, offshore, early 1964; July p. 73.
- Tuna:
 - fishery trends, early 1964; July p. 73.
 - fishing fleet, company expanding; Mar. p. 67.
 - Japanese transshipment operations at Durban; Feb. p. 73.
 - vessel delivers good catches; Nov. p. 110.
- Vessel:
 - fiberglass, successful in pilchard fishery; Nov. p. 112.
 - new, equipped for drum-trawl fishing; Sept. p. 95.
- Whale catch, 1963; Nov. p. 111.

SOUTH AMERICA

- Whaling bases, Japanese, in _____ to be surveyed; Apr. p. 62.

SOUTH ARABIA, FEDERATION OF

- Vessel, new fisheries research; Feb. p. 66.

SOUTH ATLANTIC

- Crab, blue, industry of _____--an industry in transition; Dec. p. 1.
- Fishery products, more, used in U. S. in 1963; May p. 34.
- Seabed and its underlying structure in Caribbean Sea, giant "echo-sounder" maps; Dec. p. 54.
- Soviet fishing activity in _____ and Gulf of Mexico; Aug. p. 38.

SOUTH ATLANTIC EXPLORATORY FISHERY PROGRAM

- Bottomfish explorations continued (M/V "Silver Bay" cruise 57); Aug. p. 38.
- Explorations continued by research vessel "Oregon"; Sept. p. 40.
- Fishery explorations, preliminary, off Hispaniola and scallop survey off Florida (M/V "Silver Bay" cruise 50); Jan. p. 29.
- Georgia, fishery explorations for commercial species continued off; Mar. p. 25.
- M/V "Silver Bay" returned to its owners, the chartered; Sept. p. 41.
- North and South Carolina, exploratory trawling continued off; July p. 31.
- Royal-red shrimp and calico scallop bottom grounds photographed off Florida east coast; May p. 32.
- Scallop distribution survey off Florida (M/V "Silver Bay" cruise 51); Feb. p. 47.
- South Carolina, exploratory trawling for commercial species off; Mar. p. 26.
- Trawling survey off Florida east coast (M/V "Silver Bay" cruise 55); June p. 27.
- Venezuela, preliminary survey off the coast of; Jan. p. 12.

SOUTH CAROLINA

- Bottomfish explorations off _____ continued; Aug. p. 38.
- Crab, blue, abundance studies with experimental trawling, July-December 1963; Feb. p. 49.
- Exploratory trawling for commercial species off _____ by M/V "Silver Bay"; Mar. p. 26.
- Finfish studies, July-Sept. 1964; Nov. p. 56.
- Fisheries biological research progress; Feb. p. 47, May p. 33, Nov. p. 55.
- Oyster studies; Feb. p. 47, May p. 33, Nov. p. 55.
- Plankton studies, January-March 1964; May p. 33.

SOUTH CAROLINA

- Pond cultivation studies of finfish and shrimp, July-December 1963; Feb. p. 49.
- Research vessel, new; Feb. p. 50.
- Shrimp:
 - pond cultivation studies of; Feb. p. 49, Nov. p. 56.
 - studies; Feb. p. 49, May p. 33, Nov. p. 56.
- Tagging of fish, July-December 1963; Feb. p. 49.
- Trawling:
 - experimental, studies; Feb. p. 49, May p. 33.
 - exploratory, off _____; July p. 31.

SOUTH CHINA SEA

- Tuna, Soviet Union fishing in _____ for; June p. 59.

SOUTH KOREA (also see KOREA, REPUBLIC OF)

- French shipyards receive orders from Soviets for fishery factoryships and from _____ for trawlers; Nov. p. 83.
- Japanese seeking additional foreign currency for fishery imports from; Oct. p. 72.
- Vessels, _____ asks Japan to liberalize exports of; Sept. p. 74.

SOUTH PACIFIC

- Tuna:
 - Japanese motherhip operations in _____; June p. 47, Aug. p. 69, Sept. p. 71, Oct. p. 66, Dec. p. 98.
- New Caledonia, more Japanese vessels move to; Apr. p. 61.

SOUTH-WEST AFRICA

- Fisheries trends, early 1964; July p. 73.
- Fish meal production and exports, January-May 1963-64; Oct. p. 44.
- Landings, fishery, set another record in 1963; Sept. p. 96.
- Pilchard:
 - fishing industry trends; July p. 73, Oct. p. 77, Dec. p. 113.
 - quotas for 1963 and 1964 seasons increased; Feb. p. 81.
 - season in 1963 sets record; Mar. p. 68.
 - Walvis Bay season gets under way; Aug. p. 84.

SOVIET BLOC

- Icelandic fishery exports to the _____, 1963; June p. 41.

SPAIN

- Canada convicts _____ trawler for violation of territorial waters; Sept. p. 59.
- Canned fish industry trends, Oct.-Dec. 1963; Mar. p. 68.
- Cannery, new fish, Spanish businessmen to finance for Mexico construction of; Dec. p. 106.
- Fisheries development plan, 1964-1967; Mar. p. 68.
- Fish meal production and imports, 1962/63 and forecast 1963/64; May p. 73.
- Japanese tuna exporters seeking more trade with _____ and Cuba; Sept. p. 72.
- La Coruna landings and prices, Oct.-Dec. 1963; Mar. p. 68.
- Mauritania signs 50-year fisheries treaty with _____; July p. 67.
- Trawl fish caught by _____ imported by Japanese firm; Mar. p. 62.
- Vigo:
 - canned fish industry; Dec. p. 114.

SPAIN (cont.)

Vigo (cont.):

fishery trends; Mar. p. 68, Aug. p. 85, Oct. p. 78,
Dec. p. 113.
landings and prices; Mar. p. 68, Dec. p. 114.

SPAWNING CHANNEL

Salmon, chum, Abernathy _____ proves effective
for reproduction of; Dec. p. 20.

SPERM OIL

Antarctic production, 1962/63 and 1963/64 season;
Oct. p. 49.
Japanese Antarctic production, 1963/64; Sept. p. 80.
Peruvian exports 1963; Aug. p. 83.

SPINY LOBSTER (also see LOBSTERS)

Australian exports increase; Oct. p. 51.
Costa Rica landings, 1963/64 season; Aug. p. 60.
Panama production in 1963; Apr. p. 69.

SPORT FISHERIES AND WILDLIFE, BUREAU OF

Federal aid:
fishery research and special studies; Dec. p. 39.
funds for restoration projects apportioned by
Interior for FY 1965; Aug. p. 20.
Fishing, sport, license sales increased in 1963;
July p. 33.
Hatchery water, studies on re-use of; Dec. p. 38.
National Fisheries Center and Aquarium, trained
dolphins will be featured at; Apr. p. 22.
Pesticide effects on fish and wildlife, _____ as-
signed responsibility for field surveillance of;
Dec. p. 56.
Rough fish removal program in Tennessee; Dec.
p. 61.
Salmon, Atlantic, _____ will carry out fish culture
experiments on; Apr. p. 30.

SPORT FISHING

Federal research laboratory, new, to be built on
University of Rhode Island property; Feb. p. 50.
License sales for _____ increased in 1963; July
p. 33.
Mexico, Mazatlan, _____ industry; Aug. p. 77.
Shark _____ in United States; June p. 7.

SQUID

Canada's far north, small _____ found in; Mar. p. 47.

ST. PIERRE

Harbor and processing facilities improved; Apr.
p. 72.

STANDARDS

Codex Alimentarius (Food _____) Commission,
Second Session meets in Geneva; Dec. p. 75.
Fish blocks, frozen, revised _____ for grades of;
Aug. p. 90, Nov. p. 117.
Halibut, Pacific, quality evaluation of ex-vessel
landings continued; Sept. p. 24.
International _____ for fishery products, a progress
report on the development of; Sept. p. 1.
International trade, experts seek worldwide _____
for fishery products in; Apr. p. 44.
Shrimp, frozen raw breaded, identity _____, public
hearing on; Feb. p. 88, Apr. p. 77.
Tuna, canned:
identity _____ amendment became effective June
15, 1964; Aug. p. 90.

STANDARDS

Tuna, canned:

identity _____, amendment requested in; Apr. p. 77.
Weights and measures activities in the USDI fishery
products _____ and inspection programs; Oct. p. 8.
World trade in fishery products, model _____
worked out by fisheries group for; May p. 40.

STATE, DEPARTMENT OF

Fishery Attaches appointed for Mexico and Africa;
Mar. p. 77.

STATES

Financial aid to _____ for research and development
of commercial fisheries; Sept. p. 100.

STATISTICS

Commercial fishing industry economic census
planned; Apr. p. 77.

STEELHEAD

Oregon:

fish disease study center, new, primarily con-
cerned with juvenile salmon and _____ in hatch-
eries; July p. 28.
flume, new fish behavioral, built for _____ in
northwest; Sept. p. 38.
Yamhill River, _____ planted in; Aug. p. 36.
Washington, incidental catch minimized by larger
mesh nets in; June p. 32.

STERN TRAWLING (see TRAWLING)

STRIPED BASS

Long Island marking program, tag returns sought
from; Feb. p. 51.

STRUVITE CRYSTALS

Crab, king, canned, use of certain pyrophosphates to
control _____ in; Aug. p. 19.

STURGEON

Fry hatched artificially by Soviets with new type
equipment; Mar. p. 27.

U.S.S.R.:

scientists develop new species of salmon and
_____ ; May p. 76.
develops new variety of _____ ; Sept. p. 97.

SUBMARINE

One-man fiberglass _____ developed in West Ger-
many; Aug. p. 63.

Woods Hole Oceanographic Institution:

deep-diving _____ for; Apr. p. 25.
deep-diving _____ for oceanographic research
commissioned by; Aug. p. 36.

SUBSIDIES

Fishing Fleet Improvement Act, proposed regula-
tions announced for notice and hearing require-
ments of; Dec. p. 123.
OECD adopts a position on fishing industry _____;
Oct. p. 48.

SUDAN

Crustaceans specialist meeting attended by _____;
Apr. p. 40.
Soviet fishery technicians complete survey of Red
Sea waters; Apr. p. 72.

SURINAM

Shrimp:

Japanese fishing operations in _____; Oct. p. 79.
 United States-owned firm's operations in _____;
 Oct. p. 79.
 vessels, four new, delivered by Texas shipyard
 to Japanese firm in _____; June p. 58.

SWEDEN

Exports of fishery products, 1960-1962; Feb. p. 82.
 Fishing fleet, status of, 1962; Feb. p. 82.
 Fishing industry trends, 1962 and estimate for
 1963; Feb. p. 81.
 Imports of fishery products, 1960-1962; Feb. p. 83.
 Landings, fishery, 1961-1962; Feb. p. 82.
 Midwater pair-trawling for large herring, experi-
 mental, shows promise; Jan. p. 69.
 Nordic Fisheries Conference, ninth, attended
 by _____; Sept. p. 55.
 Nordic, joint, fisheries limits considered; June
 p. 39.
 Pakistan helped by _____ to mechanize small fish-
 ing craft; July p. 41.
 Shrimp fishing agreement, Swedish-Norwegian;
 Feb. p. 84.
 Vessels:
 floating docks, two, built in _____ for U.S.S.R.;
 Nov. p. 113.
 freezer-transport, ten, built in _____ for Soviet
 fishing fleet; Nov. p. 113.
 Whaling Convention, International, withdrawal
 from; Apr. p. 72.

SWIMMING SPEEDS

Fish _____; Oct. p. IV.

SWORDFISH

Atlantic, North, _____ survey continued; June p. 20.
 Canada:
 Newfoundland _____ long-lining experiments suc-
 cessful; Jan. p. 45.
 Nova Scotia's swordfish landings boosted by long-
 lining; Jan. p. 44.
 Japanese to fish in Northwest Atlantic; Oct. p. 70.
 Larval specimens of _____ collected in the South
 Atlantic; Nov. p. 48.
 North Atlantic, western, distribution studies of
 _____ and tuna by M/V "Delaware"; Sept. p. 28.
 Vessel "Chilmark Sword" delivered; Dec. p. 64.

TAGGING

Alaska, king crab _____ operations in Portlock
 Bank area; Sept. p. 13.
 Cod crosses the Atlantic; Apr. p. 8.
 Crab, king, Alaska recoveries reduced by heavy
 winds; Mar. p. 9.
 Flounder blackback _____ program off Massachu-
 setts; Aug. p. 34.
 Fur seals, modified _____ techniques suggested to
 prevent excess mortality of; Aug. p. 22.
 Game fish:
 Pacific area cooperative marine (marlin and
 sailfish) _____ program; Sept. p. 41.
 results of _____ program for 1963 by Woods Hole
 Oceanographic Institution; Feb. p. 52.
 Halibut and sole _____ and migration studies by
 Oregon Fish Commission; Sept. p. 19.
 Lobster:
 population studies aided by new _____ method;
 Oct. p. 28.

TAGGING

Lobster:

spiny, Australia's _____ project; July p. 46.
 Ocean perch, annual check of tagged fish at Eastport,
 Maine; Sept. p. 35.
 Patent awarded on new _____ and recovering meth-
 od; Aug. p. 39.

Salmon:

Canada:

Atlantic Coast _____; Aug. p. 55.
 chinook and silver _____ program in British
 Columbia; Aug. p. 55.
 program in the Strait of Georgia; Feb. p. 67.
 North Pacific high-seas _____ planned by U. S.
 Bureau of Commercial Fisheries; July p. 30.
 United States-Canadian cooperative _____ program;
 Dec. p. 59.
 Sole, petrale, California migration studies and
 by M/V "N. B. Scofield"; Dec. p. 26.
 South Carolina fish _____ studies, July-December
 1963; Feb. p. 49.
 Striped bass tag returns sought from Long Island
 marking program; Feb. p. 51.
 Tuna:
 bluefin:
 Atlantic Ocean _____ results by Woods Hole
 Oceanographic Institution in 1963; Feb. p. 52.
 fish tagged off Baja California recaptured near
 Japan; Sept. p. 42.
 Canadian scientists study migrations off Atlantic
 coast; Mar. p. 45.
 Italy tags young bluefin and albacore in Sicily;
 May p. 55.
 Washington, salmon _____ in Puget Sound continued;
 Aug. p. 45.

TAHITI

Tuna, Japanese mothership departs for _____ to
 fish; June p. 46, July p. 59.

TAIWAN

Carp, artificial hatching of; Mar. p. 70.
 Exports of fishery products, 1963; May p. 74.
 Fisheries:
 production, 1962-1963; Mar. p. 69.
 trends; Jan. p. 69, Mar. p. 69, June p. 58.
 trends in 1963 and outlook for 1964; May p. 73.
 Italy and _____ to sign fishery agreement; Nov. p.
 p. 112.
 Mullet, artificial hatching of; Mar. p. 70.
 Sardine fisheries trends, Feb. 1964; June p. 58.
 Shrimp:
 exports increased in 1963; Feb. p. 84.
 exports, Jan.-June 1964; Dec. p. 114.
 Tuna:
 Chinese fishermen to train Cameroon fishermen;
 July p. 48.
 fisheries aided by World Bank loan for purchase
 of new fishing vessels; May p. 74.
 fisheries trends, Feb. 1964; June p. 58.

TANGANYIKA

Fishery resources of _____ surveyed by Japanese;
 Apr. p. 73.

TANGLE NETS

Japanese king crab fishery, polypropylene _____ to
 be used in; May p. 62.

TARIFF COMMISSION, U. S.

Fishery products, some, hearings held preliminary to 1964 GATT negotiations on; Feb. p. 89.

Groundfish:

and ocean perch fillets, hearings on exclusion from tariff modifications of; Feb. p. 91.
fillets reserved from trade-agreement negotiations; June p. 64.

TARIFFS

Australian import regulations affecting fisheries; July p. 45.
Belgium-Luxembourg import quota and duty for fresh and frozen cooked crab and shrimp, Jan. 1, 1964-Mar. 31, 1965; May p. 47.
European Free Trade Association:
import _____ on certain fishery products; Apr. p. 40.
industrial _____ reduced another 10 percent; Mar. p. 35.
GATT negotiations, 1964, British Columbia canned salmon industry asks for _____ reduction at; July p. 48.
Schedules of United States of August 31, 1963, Committee on Ways and Means invites suggested changes in; Feb. p. 93.
Tariff Commission, U. S., hearings held on some fishery products preliminary to 1964 GATT negotiations; Feb. p. 89.
Trade Information Committee, U. S., hearings held on some fishery products preliminary to 1964 GATT negotiations; Feb. p. 89.
United Kingdom Prime Minister asks worldwide reduction; July p. 78.

TAX(ES)

Alaskans receive time extension for income _____ reduction claims; Aug. p. 97.
Fishermen:
considered independent contractors for _____ purposes by U. S. Court of Appeals for the Fifth Circuit; July p. 88.
employees for _____ purposes, U. S. Circuit Court of Appeals holds; Jan. p. 79.

TECHNICIANS

Washington State fishery _____ to be trained at Peninsula College; May p. 37.

TECHNOLOGY

Atlantic Fisheries Technological Conference held on Oct. 11-14, 1964; Oct. p. 14.
Composition and nutritive value of fishery products, research program on; Mar. p. 23.

TELEVISION

Electrical fishing gear in operation observed by _____ aboard M/V "Delaware"; Sept. p. 30.
Underwater _____, king crab located with, by M/V "Paragon"; Sept. p. 12.

TENNESSEE

Rough fish removal program, April-June 1964; Dec. p. 61.

TENNESSEE VALLEY AUTHORITY

Commercial and sport fish catches, 1963; Mar. p. 28.
Commercial fish harvest, reservoirs offer larger; Mar. p. 28.

TERRITORIAL SEA

Convention on the _____ and Contiguous Zone enters into force; Oct. p. 49.
Law of the Sea Conference, Third International, recommended by American Bar Association group; Dec. p. 39.

TERRITORIAL WATERS

Canada:
convicts Spanish trawler for violation of _____; Sept. p. 59.
extended fishing limits do not apply to U. S. fishing vessels; Oct. p. 52.
Colombia establishes 200-mile _____; Jan. p. 47.
Denmark's fishing limits; Apr. p. 53.
Japan:
reaction to new U. S. law on fishing in _____; Aug. p. 73.
views on new law prohibiting fishing in U. S. _____ by foreign vessels; Nov. p. 91.
Pakistan's extension of _____ to 12 miles advocated; Jan. p. 67.
Togo Republic law regulating commercial fishing extends _____ to 12 miles; Sept. p. 97.
Turkey considers 12-mile fishing limit; June p. 58.
United Kingdom invites 16 nations for conference on _____; Jan. p. 72.

TEXAS

Animal feed, observations and views in _____ on use of fishery byproducts in; Aug. p. 28.
Gulf States Marine Fisheries Commission annual meeting in Brownsville, _____; Nov. p. 35.
Shrimp vessels, four new, delivered by _____ shipyard to Japanese firm in Surinam; June p. 58.

THAILAND

Fisheries survey planned; Aug. p. 86.
Malayan fish imports, lifting of ban requested by _____ on; Jan. p. 70.
Subsidy, fishery, fund use; May p. 74.

TOGO, REPUBLIC OF

Imports of fishery products from U.S.S.R. increase in 1963; July p. 74.
Outboard motors provided by FAO project; July p. 41.
Territorial waters extended to 12 miles by law regulating commercial fishing; Sept. p. 97.

"TOWNSEND CROMWELL," M/V

Research vessel of Bureau of Commercial Fisheries, successful maiden voyage completed by new; May p. 13.

TRADE AGREEMENT

Denmark's new _____ with Soviets may include fish freezerships; Jan. p. 49.

TRADE EXPANSION ACT

GATT 21st session held at Geneva; May p. 41.

TRADE FAIR

Denmark's Copenhagen fisheries _____ in September 1964; Apr. p. 57, Dec. p. 91.

TRADE INFORMATION COMMITTEE, U. S.

Fishery products, some, hearings held by _____ preliminary to 1964 GATT negotiations on; Feb. p. 89.

TRAINING

Washington State fishery technicians to be trained at Peninsula College; May p. 37.

TRANSPORTATION

Alaska:

barge facility being built at Ketchikan; Aug. p. 13.
lower water transportation rates stayed, Federal Maritime Commission order for; Sept. p. 104.
rail-barge services expanding; Feb. p. 52, Mar. p. 9.

Alaska Steamship Company:

cargo rates, seasonal, denial of petition for re-hearing on; Aug. p. 14.
tariff reduction order by Federal Maritime Commission stayed by U. S. Court of Appeals; Sept. p. 104.

ICC approves charge for less-than-carload shipments; Apr. p. 78.

REA files tariffs to increase charges; Feb. p. 51.

Truckers of New England, rate increase sought by; Feb. p. 51.

Washington-Alaska rail-barge service expanded; Feb. p. 52.

TRAP

Shrimp, Alaska, _____, vertical string with black mesh fish better; Feb. p. 11.

Slat _____ tested for harvesting fish ponds; Feb. p. 17.

TRAWL

Electric _____ tests on shrimp continued in Gulf of Mexico; Feb. p. 22.

Pelagic _____, "Cobb" type tested for effectiveness in catching winter herring; Jan. p. 22.

TRAWLER(S)

Communist China plans purchase of large _____ from Japan; Sept. p. 60.

Computer, stern vessel design produced by; Sept. p. 87.

Freezer-_____:

in Britain lands frozen blocks of whole fish; May p. 76.

new, launched in United Kingdom; Apr. p. 76.

Stern _____:

"Canyon Prince," new small type; Nov. p. 61.

New Zealand builds small type; Oct. p. 74.

Norwegian factory-type lands frozen processed catch in England; July p. 70.

Rumania orders two new freezer types from Japan; Mar. p. 67.

United Kingdom:

freezership-_____ expanding, British fleet of;

Jan. p. 71.

newest addition to freezer-_____ fleet launched;

Sept. p. 98.

stern _____ of "Daring" class to be built, two new semi-automated; Dec. p. 115.

TRAWLING

Arabian Sea and Bay of Bengal _____ results of the R/V "Anton Bruun"; Nov. Supplement, p. 27.

Atlantic, northwest, Japanese experimental _____ operations in; Oct. p. 69.

California, southern, bottom _____ explorations by M/V "N. B. Scofield" (cruise 64-S-1); June p. 10.

Central Pacific Fisheries Investigations results of midwater _____ for juvenile tuna; Dec. p. 32.

TRAWLING

Deep-water _____ gear developed by Soviets; Oct. p. 80.

Electrical _____ tests continued by M/V "Delaware"; Jan. p. 21, June p. 20.

Florida, east coast fish _____ survey conducted by M/V "Silver Bay"; June p. 27.

Great Lakes:

Lake Michigan investigations by M/V "Kaho"; Feb. p. 17, May p. 18.

Lake Superior, more effective methods studied by M/V "Kaho" of _____ for commercial species in; Aug. p. 25, Nov. p. 30.

Gulf of Guinea survey; Aug. p. 1.

Italy's freezer-trawler vessels for Atlantic fishing fleet; Dec. p. 96.

Japan:

Atlantic fleet, refrigerated carriers being built for; Sept. p. 77.

Atlantic, new firm plans _____ and fish meal operations in; Jan. p. 59.

Midwater _____ tests successful in Pacific coast hake fishery; Aug. p. 23.

Netherlands dual-purpose trawler "Tinie Cornelia," new; July p. 69.

Off-bottom _____ experiments in North Atlantic by M/V "Delaware"; Dec. p. 50.

Pelagic _____:

hake distribution and abundance explored in North Pacific by M/V "John N. Cobb"; Dec. p. 52.

multipurpose-type operation tested by chartered vessel "St. Michael"; Dec. p. 54.

North Pacific development program; Oct. p. 31.

North Pacific experimental fishing with "Cobb" trawl by M/V "St. Michael"; Nov. p. 47.

South Africa Republic equips new vessel for drum-trawl fishing; Sept. p. 95.

South Carolina experimental studies; Feb. p. 49.

May p. 33.

Stern _____ reviewed at United Kingdom conference;

Feb. p. 85.

Tuna, juvenile, midwater _____ tests conducted by

M/V "Townsend Cromwell" for taking; Dec. p. 32.

U.S.S.R., State Fisheries Production Commission recommends deep-water _____ for fishing vessels;

Dec. p. 114.

Washington coast bottomfish _____ survey by M/V

"John N. Cobb," cruise 65; Sept. p. 31.

TREASURY, DEPARTMENT OF THE

Antidumping regulations, public hearing held on; Feb. p. 91.

Coast Guard:

cutter "Ingham" occupies ocean weather station; Sept. p. 35.

Gulf of Mexico, hearings on lights and fog signals on offshore platforms in the; May p. 79.

vessel "Vigilant," new search and rescue; Dec. p. 63.

Customs, Bureau of, tuna canned in brine imports under quota proviso for 1964; June p. 64.

Halibut steaks from Japan not being sold at less than fair value; Feb. p. 91.

Internal Revenue Service, income tax, Alaskans receive time extension for reduction claims; Aug. p. 97.

TRINIDAD

Soviet fishing vessels may base at _____; Jan. p. 73.

TROPICAL ATLANTIC (see INTERNATIONAL COOPERATIVE INVESTIGATIONS OF THE TROPICAL ATLANTIC)

TROUT

- Australian _____ farm planned in Tasmania; July p. 46.
- California hatchery losses due to food problem; Dec. p. 30.
- Canada's restocking program for _____ and salmon in Quebec; Dec. p. 88.
- Farms, commercial, production in United States; Aug. p. 40.
- Ireland's farming of _____ expanded; Apr. p. 59.
- Rainbow _____ eggs from Australia help expand production at Idaho fish farm; Oct. p. 38.
- United Kingdom interested in farming method developed in Norway; Nov. p. 115.

TRUST TERRITORY OF THE PACIFIC, U. S. (also see CAROLINE ISLANDS, PACIFIC TRUST TERRITORY)

- Caroline Islands:
 - commercial fisheries project at Palau being developed; Dec. p. 31.
 - Palau Islands, fishing base planned by California firm in; Apr. p. 32.
 - tuna fishing base planned in Palau Islands by U. S. firm; Oct. p. 21.

TUNA

- Albacore:
 - California's migration studies and tagging by M/V "N. B. Scofield"; Nov. p. 23.
- Japan:
 - Atlantic ocean catch improving; Oct. p. 64.
 - Atlantic Ocean fishery and market trends; Dec. p. 98.
 - attracting deep-swimming fish to surface, University's study of; Dec. p. 99.
 - export prices; Nov. p. 89.
 - prices, ex-vessel, still high in June 1964; Sept. p. 71.
 - price trends, ex-vessel, Nov.-Dec. 1963; Feb. p. 72.
 - summer fishery and export trends; July p. 59.
 - Aug. p. 69, Sept. p. 71.
 - Yaizu, landings at; June p. 45.
- movement off the Pacific coast in 1963, review of; Dec. p. 13.
- North Pacific abundance and distribution study; Sept. p. 32, Dec. p. 51.
- Oregon Fish Commission exploratory cruise; Sept. p. 42.
- Pacific, eastern temperate, preseason oceanographic survey in; Aug. p. 41.
- spawning studies in the South Pacific Ocean; Feb. p. 13.
- U. S. Pacific coastal area catch forecast, 1964; Aug. p. 40.
- American Samoa:
 - fleet as of Aug. 31, 1964; Dec. p. 25.
 - fleet dwindling; Nov. p. 21.
 - prices, ex-vessel; Aug. p. 14.
- Atlantic Ocean:
 - FAO 43rd Session considered report on resources; Dec. p. 73.
- Japan:
 - government to explore for _____; Oct. p. 65.

TUNA

Atlantic Ocean:

- Japan:
 - purse-seine fleet, firm to operate; Aug. p. 70.
 - views on proposals advanced at FAO-sponsored meeting on conservation of _____; Jan. p. 56.
 - resources working party meets in Rome; Jan. p. 38.
 - survey continued in northern area; June p. 20.
- Australia:
 - catch of tuna could top fish catch; Sept. p. 56.
 - facilities expanded to handle increased catch; Nov. p. 75.
 - fishery has good season; Sept. p. 56.
 - fishery trends, 1963-64; June p. 36.
 - Japanese joint venture considered; Nov. p. 76.
 - landings increase in fiscal year 1962/63; Sept. p. 57.
 - long-lining:
 - modified, in inshore waters; Aug. p. 54.
 - survey; Apr. p. 50.
- Behavior near driftwood studied by Japanese; Sept. p. 73.
- Big-eyed, European market for Japanese fish reported soft; July p. 57.
- Blackfin schools observed off Caribbean coast of Colombia; Sept. p. 23.
- Bluefin:
 - age composition of the commercial California catch in 1963; Nov. p. 12.
 - age-growth studies:
 - by M/V "West Point"; Dec. p. 61.
 - of _____ landed in California; Jan. p. 31.
 - Japanese ex-vessel prices in northern area; Dec. p. 99.
 - New Zealand south coast explorations; Oct. p. 73.
 - tagged off Mexico, _____ is recaptured near Japan; Dec. p. 62.
 - tagged _____ recaptured near Japan; Sept. p. 42.
 - tagging results in Atlantic Ocean for 1963 by Woods Hole Oceanographic Institution; Feb. p. 52.
 - U. S. Pacific coastal area catch forecast, 1964; Aug. p. 40.
- Bluefin and albacore, Italy's tagging of young initiated in Sicily; May p. 55.
- California landings to Oct. 17, 1964; Dec. p. 63.
- Canada:
 - canning, scientists devise new method to speed; Mar. p. 49.
 - migrations off Atlantic coast studied; Mar. p. 45.
- New Brunswick:
 - fishermen to enter east coast fishery; Jan. p. 44.
 - industry; June p. 37.
- Nova Scotia, new cannery planned for; Aug. p. 55.
- Canned:
 - Dominican Republic prices reduced; Mar. p. 53.
 - France's exports, industry urged to increase; May p. 51.
 - Italy, Japan proposes to participate in promotion program; May p. 55.
- Japan:
 - canners developing domestic sales; Apr. p. 60.
 - export quota and prices, reductions proposed for; Oct. p. 63.
 - exports; Apr. p. 60, May p. 56.
 - exports to U. S., cannery and exporters discuss drop in; Oct. p. 63.
 - exports, value of, Jan.-Sept. 1963; Feb. p. 71.
 - Japan Tuna Packers Association members pack bulk of _____; Aug. p. 68.
 - market trends; July p. 60, Aug. p. 68.

TUNA (cont.)

Canned (cont.):

Japan (cont.):

market trends, Japanese comment on; Mar. p. 57.
new type product developed; Feb. p. 71.
packers and exporters study slow sales; Oct. p. 64.
promotion in U. S.; Mar. p. 57.
specialty products, exports of; Aug. p. 68.
standard of identity amended; Apr. p. 77, June p. 62, Aug. p. 90.
"Tuna with Vegetables" imports dutiable at 20 percent ad valorem; Mar. p. 77.
U. S. industry presents award to Interior Department for marketing assistance; July p. 34.

Canned in brine:

Japan:

export quota to U. S.; Jan. p. 54.
exports to U. S. by destination; Aug. p. 67.
exports to U. S., 1958-1963; June p. 44.
sales to U. S.; Feb. p. 71, Mar. p. 57, May p. 56, Aug. p. 67.
whitemeat, standard prices established for; Aug. p. 67.

United States imports:

from Japan by destination; Aug. p. 67.
under 1964 quota proviso; June p. 64.
under quota; Jan. p. 35, Feb. p. 54, Mar. p. 30, May p. 35, July p. 36, Aug. p. 43, Sept. p. 45, Oct. p. 41, Nov. p. 63.

Canned in oil:

Japan:

export prices to Canada, 1964; Oct. p. 64.
exports; Jan. p. 54, Mar. p. 57, May p. 57, June p. 43.

Caroline Islands:

commercial fishery project for _____ fishing in; Aug. p. 16.
fishing base, U. S., planned in Palau Islands; Oct. p. 21.

Central Pacific Fisheries Investigations:

behavior studies continued by M/V "Charles H. Gilbert"; Dec. p. 36.
behavior studies of little _____; Aug. p. 16.
juvenile _____, results of midwater trawling for; Dec. p. 32.

Central Pacific Ocean:

biological studies continued by M/V "Charles H. Gilbert"; Dec. p. 35.
midwater trawls for taking juvenile _____ tested by M/V "Townsend Cromwell"; Dec. p. 32.

Ceylon requests loan from Japan to start fishery; June p. 38.

Chile:

fleet to be expanded; Sept. p. 60.
industry expanding; Aug. p. 58.
Japanese joint enterprise; May p. 48.

Chinese vessels to train Cameroon fishermen; July p. 48.

Congo-Brazzaville freezing and cold-storage plant operated by U. S. firm; Dec. p. 89.

Cook Islands cannery, plan rejected for Japanese-supplied; Jan. p. 48.

Costa Rica landings, 1963/64 season; Aug. p. 60.
Description of _____; July p. 80.

Ecuador's industry trends, 1963; Sept. p. 64.

El Salvador hopes to develop fishing and processing industry; Dec. p. 92.

FAO holds research meeting in Rome; Sept. p. 50.

TUNA

Fiji Islands:

base, status of; Mar. p. 53.

Japanese base, ex-vessel prices at; Dec. p. 92.

Frozen:

Denmark contracts to import from Japan; Feb. p. 72, Italy:

import quota:

for 1963 increased; Feb. p. 71.

no increase in; May p. 55.

Japanese rejects reported; May p. 55.

prices paid for Japanese product; May p. 54.

Japan:

export(s):

Atlantic prices; May p. 56.

calendar year 1963; June p. 42.

Cuba shipments increasing; Sept. p. 72.

Europe and Africa; Apr. p. 59.

fiscal year 1963; June p. 43.

market trends; Jan. p. 55, Feb. pp. 71, 72.

price(s):

Dec. 1963; Mar. p. 56.

for Atlantic _____; May p. 56.

strengthen; Jan. p. 54.

trends, Jan. 1964; Mar. p. 55.

quota(s):

for FY 1964; May p. 56.

for U. S.; May p. 56.

regulations, new, planned; Feb. p. 72.

United States, 1962-1963; Mar. p. 56.

validations to U. S.; Sept. p. 71, Oct. pp. 61, 62,

Dec. p. 97.

value of, third quarter 1963; Feb. p. 71.

Yugoslavia; Mar. p. 56.

Italy sales:

improving; Oct. p. 59.

slow in June 1964; Sept. p. 72.

levy reduced by Japan Frozen Tuna Sales Company; June p. 45.

prices for export; Dec. p. 97.

U. S. sales continued slow, July-Aug. 1964; Nov. p. 89.

Ghana landings up in 1963; Aug. p. 64.

Gulf of Aden fishery trends, 1963; Mar. p. 39.

Gulf of Guinea:

biological studies by M/V "Geronimo," results of; Nov. p. 57.

investigations by research vessel "Geronimo," cruise 4; Oct. p. 31.

Italy:

expansion of operations planned; May p. 54.

industry trends; May p. 54.

Japanese-Italian joint enterprise; May p. 54, Oct. p. 59.

vessels for Atlantic fishing fleet, two new; Dec. p. 96.

Japan:

American Samoa:

base, fishery official's view on; July p. 58.

Government issues special permit to land Fiji Islands _____ at; May p. 13.

Japanese negotiate prices with U. S. packers in; July p. 57.

vessels in difficulty based at; Jan. p. 56.

Atlantic Ocean:

company applies to operate mothership in; Jan. p. 55.

exports, Jan.-June 1964; Oct. p. 62.

fishing trends; Aug. p. 70, Oct. p. 65, Nov. p. 89.

behavior near driftwood studied; Sept. p. 73.

TUNA (cont.)

Japan (cont.):

Cape Verde Islands:

agreement signed for joint venture in; July p. 58.
base to be constructed on; May p. 48.

landings good at; Oct. p. 66.

Costa Rica transshipment base planned; Apr. p. 61.

Durban, South Africa, transshipment operations at; Feb. p. 73.

exporters:

adopt program for fiscal year 1964; June p. 45.
seeking more trade with Spain and Cuba; Sept. p. 72.

export quota allocation planned for overseas bases; May p. 57.

Fiji Islands, British-Japanese base completed; July p. 59, Oct. p. 57.

frozen to be exported to Cuba; July p. 57.

Indian Ocean:

motherhip confronted with labor dispute at sea; Sept. p. 74.

transshipment ports designated; Dec. p. 99.
industry organizations seek to improve their management; May p. 57.

licenses, fishing, decline in value; Sept. p. 73, Nov. p. 90.

long-line:

crews, fishing company to fly replacements for; Sept. p. 73.

exploratory cruise in eastern tropical Pacific aids U. S. shark study; July p. 61.

fisheries catch, 1963; Dec. p. 99.

long-liners refuel at sea by tanker; Sept. p. 74.

Malaysian:

bases operate at a loss; Aug. p. 69.
fishing base, shore facilities improved at; Jan. p. 55.

Mauritius Island, Port Louis transshipment base; Mar. p. 64.

motherhip:

crew dismissed for disturbance; Oct. p. 67.
regulations for two fishing companies changed by Government; July p. 58.

New Caledonia, Japanese to expand fishing base in; Jan. p. 64.

offshore fishery, new, number of small vessels to fish in; Mar. p. 62.

overseas bases:

council under study, establishment of; Sept. p. 72.
operators urged by Government to organize; June p. 46.

regulations revised; June p. 45.

Pacific:

eastern:

motherhip returns; May p. 58.
resources to be surveyed by research vessel; Nov. p. 89.

Equatorial fishing trends, Nov. 1963; Feb. p. 73.
north, new offshore fishery in; June p. 46.

south:

fishing in; Aug. p. 69.
motherhip fishing trends in; June p. 47, Aug. p. 69, Sept. p. 71, Oct. p. 66, Dec. p. 98.
purse-seining experiment unsuccessful; July p. 59.

portable-boat motherhip fishery; June p. 46.
prices, high, paid in Tokyo for fresh fish; Mar. p. 57.

purse seiners on trial runs, two new; Oct. p. 67.

TUNA

Japan:

refueling vessels at sea, _____ Federation hopes to continue; Jan. p. 56.

research council to be formed; Oct. p. 66.

resource management problems confronting fishing industry, study of; Nov. p. 90.

Saint Martin, Netherlands West Indies; May p. 69.

salmon fishermen request _____ fishing licenses; Aug. p. 71.

specialty packs, FY 1963, exports of; July p. 60.

Tahiti and Fiji, motherships sail for; June p. 46.

Tahitian waters, motherhip departs for; July p. 59.

U. S. delegation being considered; July p. 60.

U.S.S.R. shipyard launches first of five factory-motherships ordered by; May p. 61.

vessels:

efficiency study of; May p. 63.

more move to New Caledonia area of south Pacific; Apr. p. 61.

recovery of driftwood released by; Nov. p. 91.

refueling at sea; May p. 63, July p. 59.

small, Government stops applications for permits to construct; Feb. p. 73.

West African Coast, Japanese negotiate with Portuguese firm for base off; Sept. p. 72.

Yugoslav market to be surveyed; Oct. p. 81.

Korea, Republic of:

vessel(s):

launched; June p. 49.

negotiations for additional; Sept. p. 82.

Larval specimens collected in the south Atlantic; Nov. p. 48.

Little _____ behavior studies by Honolulu Biological Laboratory; Aug. p. 16.

Loins, frozen, Japanese export validations to U. S.; Oct. pp. 61, 62, Dec. p. 97.

Mexico joins Inter-American Tropical _____ Commission; May p. 42.

Morocco:

cannery, new, being built in Tangier; Apr. p. 65.
exploratory fishing planned; July p. 69.

French-Moroccan joint exploration planned; Nov. p. 102.

industry development project; May p. 68.

Netherlands West Indies:

St. Martin base:

ice vessels, six, assigned by Japanese firm to; Aug. p. 81.

transshipment quota for; May p. 69.

New Caledonia, Noumea base, Japanese fishing firm withdraws from; Oct. p. 73.

North Atlantic, western, distribution studies; Feb. p. 37, Sept. p. 28.

Okinawa's fishing fleet increasing; Jan. p. 67.

Pacific Ocean:

Palau Islands fishing base planned by California firm; Apr. p. 32.

selective fishing to observe behavior of small tuna in central area; June p. 12.

studies in central area continued; June p. 14.

Panama's fishing regulations for foreign vessels; Nov. p. 104.

Promotion poster--Let's Get Hot with Cool Tuna; July outside back cover.

Puerto Rico, industrial ARA loan to firm in; Oct. p. 82.

Ryukyu Islands' Government seeks changes in fisheries agreement with Japan; Dec. p. 111.

TUNA (cont.)

Senegal to purchase four vessels from British; Nov. p. 109.

Skipjack:

blood-typing studies in central Pacific expanded; Nov. p. 26.

Hawaii landings:

monthly data; Jan. p. 15, Feb. p. 28, Apr. p. 19, May p. 23, 1963; Mar. p. 21.

Japan:

Marianas, good fishing near; June p. 46.

Philippines, test purse-seining proposed off; May p. 61.

pole-and-line fishery for _____ being studied by major fishing firms; Sept. p. 73.

South Africa Republic:

catches, vessel delivers good; Nov. p. 110.

fishery trends, early 1964; July p. 73.

fishing fleet, company expanding; Mar. p. 67.

Speed and swimming effort of _____ studied; Mar. p. 15.

Swimming behavior studied by Honolulu laboratory; Nov. p. 25.

Taiwan fisheries:

aided by World Bank loan for purchase of new fishing vessels; May p. 74.

outlook for 1964; May p. 74.

trends, Feb. 1964; June p. 58.

Trust Territory of the Pacific, U. S., commercial fisheries project being developed at Palau; Dec. p. 31.

U.S.S.R.:

Atlantic fishery, expanding Soviet fleet may have significance for; Oct. p. 65.

South China Sea, fishing in; June p. 59.

World _____-like fish catch, 1962; Mar. p. 36.

Yellowfin:

Inter-American Tropical _____ Commission recommends lower 1964 quota for fish caught in eastern Pacific; May p. 42.

Japanese export market trends for frozen; Apr. p. 59, Nov. p. 89.

regulations concerning catch quota, open seasons, and closed seasons proposed for eastern Pacific; July p. 82.

Yugoslavia:

market for _____ to be surveyed by Japanese;

Oct. p. 81.

vessels to be built for Atlantic fishing; Dec. p. 115.

TUNISIA

East Germany, fisheries trade with; June p. 58.

Fisheries development; May p. 74.

Fishing vessels to be built in Yugoslavia under economic aid program; Jan. p. 70.

Italian fishing vessels detained by _____; Jan. p. 70.

TURKEY

Fisheries limit of 12 miles considered; June p. 58.

Fishery cooperative, Greek-Turkish, proposed; Jan. p. 38.

TURTES

Costa Rica:

regulations for green-_____; July p. 50.

two new companies established to fish for marine _____ may have Japanese participation; Dec.

p. 90.

Mexico's Sinaloa fishery; Aug. p. 78.

ULTRAVIOLET

Sterilizing unit installed in sea-water tank to determine effectiveness; Mar. p. 24.

UNDERWATER CRAFT

Submarine, one-man fiberglass, developed in West Germany; Aug. p. 63.

U.S.S.R. designs _____ for Barents Sea studies; July p. 76.

UNDERWATER TV CAMERA

Fish reactions to electric field seen with _____ during M/V "Delaware" cruise; Nov. p. 43.

United Kingdom's improved _____ to aid in marine research; Jan. p. 71.

UNESCO

Intergovernmental Oceanographic Commission's Third Session meets in Paris, June 10-19, 1964; July p. 44.

UNION OF SOVIET SOCIALIST REPUBLICS (U.S.S.R.)

Alaska:

crab fleet off Kodiak; July p. 7.

fishing:

activity by _____; Oct. p. 12, Nov. p. 15, Dec. p. 22, fleet of _____ off Yakutat; July p. 7.

Portlock Bank, _____ continues to fish; July p. 7. trawl fishery of _____ in Bering Sea during June; Sept. p. 10.

Alaska, Gulf of:

fishing:

activity of _____; May p. 12, June p. 9.

efforts of _____; Mar. p. 8, May p. 76.

king crab activity during June; Sept. p. 10.

Atlantic Ocean, fishing fleets in; May p. 75.

Bering Sea:

eastern, fishing efforts of _____ withdrawn in

November 1963; Mar. p. 8.

fishing activities; Apr. p. 9, May p. 76, Aug. pp. 10, 11.

fleets in; May pp. 12, 75.

Bulgaria high-seas fisheries development aided by _____; Apr. p. 51.

Catch:

and principal species; Nov. Supplement p. 15.

goal, fisheries, increased for 1964; Feb. p. 84.

Crab, king, negotiations with Japan concluded; July p. 42.

Cuba's fisheries expansion claimed result of _____ aid; Dec. p. 90.

Danish fishing operations, Soviet interference claimed with; Apr. p. 74.

Electronic fishing gear being tested; July p. 76.

Factoryship(s):

eight, to be built by Japanese for _____; Nov. p. 97.

fishing type, built by West German shipyard for _____, specifications of; Feb. p. 84.

for north Pacific, construction near completion of one; Nov. p. 114.

ninth, construction started of; Apr. p. 73.

Far East fisheries expansion; Nov. Supplement p. 1. Fisheries:

development hampered; June p. 80.

developments in _____ since 1913; July p. 76.

in 1963, with emphasis on activities off U. S.

coasts, overall view of; Nov. Supplement p. 15.

plans for 1964; Apr. p. 73.

production, marine, goals for 1963 exceeded; Feb. p. 84.

UNION OF SOVIET SOCIALIST REPUBLICS (U.S.S.R.) (cont.)

Fisheries (cont.):

research; July p. 75.

Fishery developments; Nov. p. 113.

Fish farm on Lake Hanka, Soviet Far East; Nov.

Supplement p. 18.

Fishing:

areas used by _____; Nov. Supplement p. 16.

industry; July p. 74.

Fleets:

and vessels; Nov. Supplement p. 17.

fishing; July p. 74.

operating off U. S. coasts in 1963; June p. 59.

seek fish rather than profits, Soviets say they;

Aug. p. 86.

Freezerships, new trade agreement with Denmark may include; Jan. p. 49.

French shipyards receive orders from _____ for factoryships and from South Korea for trawlers;

Nov. p. 83.

Frozen fish, Icelandic, sold to _____; May p. 52.

Fur seals, Soviet Union ratifies Protocol amending

interim convention on North Pacific; June p. 35.

Gear, fishing, Danish fishermen protest careless disposal of; Apr. p. 57.

Ghana:

fisheries agreement signed with; Mar. p. 54.

import duty on fish affects Japanese and _____

trawling in Atlantic Ocean; Mar. p. 54.

technical fisheries assistance from _____ received by; Nov. p. 84.

Gulf of Aden fishing activities, June-October 1964;

Mar. p. 39.

Halibut concentrations found in Barents Sea; Oct. p. 80.

Indian Ocean tuna fishery, _____ participates in; Jan. p. 73.

International Convention for the Northwest Atlantic

Fisheries protocol concerning harp and hood

seals, _____ ratifies; July p. 42.

Irano-Soviet agreement for economic and technical cooperation; Jan. p. 53.

Japan-Soviet fisheries conference opened in Moscow on March 2, 1964; May p. 43.

Kelp fishery agreement with Japan; July p. 67, Oct. p. 72.

Kodiak Island trawl fisheries by _____ reduced in October 1963; Feb. p. 10.

Landings:

increase forecast; July p. 74.

in 1964 expected to surpass catch target; Nov. p. 112.

Marine oil production from Antarctic whaling, 1962/63 and 1963/64 season; Oct. p. 49.

North Atlantic Ocean:

activities of _____ on Georges Bank during October 1964; Dec. p. 49.

vessels of _____ return to grounds off New England; June p. 59, July p. 23.

North Pacific whaling fleet to be increased; July p. 76.

Northwest Pacific Fisheries Commission eighth annual conference, progress on; June p. 35.

Oceanographers, United States and _____, exchange visits; Nov. p. 50.

Pribilof Islands trawling efforts in Jan. 1964; Mar. p. 8.

Processing, fish, plants for Ghana, _____ signs contract to build; Jan. p. 50.

UNION OF SOVIET SOCIALIST REPUBLICS (U.S.S.R.)

Salmon:

and sturgeon, Soviet scientists develop new species of; May p. 76.

catch, 1963; June p. 60.

farming in Latvia; April p. 74.

hatchery-reared chum fry, theories on the inferior quality of; Nov. p. 143.

North Pacific fishery negotiations with Japanese concluded; July pp. 42, 62.

Pacific hatcheries and fisheries; July p. 75.

Seals:

harp fishery in Northwest Atlantic, _____ participates in; Mar. p. 46.

Norwegian-Soviet Seal Commission sixth session held in Oslo; Feb. p. 65.

Shrimp, vessels of _____ fish in Bering Sea for;

July p. 7.

Siberia's fresh-water fisheries; Apr. p. 74.

Sound waves, Soviets claim marine groups can be identified by; Aug. p. 86.

South Atlantic and Gulf of Mexico fishing activity by _____; Aug. p. 38.

Sturgeon:

fry hatched artificially with new type equipment;

Mar. p. 27.

new variety developed by _____; Sept. p. 97.

Sudan, fishery technicians from _____ complete survey of Red Sea waters off; Apr. p. 72.

Togo imports more fishery products from _____ in 1963; July p. 74.

Trawlers:

built for _____ by East Germany; Dec. p. 94.

freezership type built for _____ by Danish shipyard; Oct. p. 56.

freezer type:

four new ones delivered to Soviet Atlantic fishing

fleet; May p. 76.

new series under construction in Denmark for

V/O Sudimport; Mar. p. 70.

three more ordered from Danish shipyard; May p. 75.

Trawling:

deep-water fishing recommended by State Fisheries Production Commission; Dec. p. 114.

gear, new deep-water, developed; Oct. p. 80.

Tuna:

Atlantic fishery, expanding Soviet fleet may have significance for; Oct. p. 65.

Japanese shipyard launches first of five factory-

motherships ordered by _____; May p. 61.

South China Sea, fishing in; June p. 59.

U. S. and _____ delegations discuss fishing gear conflicts in northeastern Pacific Ocean; Sept. p. 51.

Vessels:

floating docks, two, built in Sweden for _____;

Nov. p. 113.

foreign construction for _____, Soviet Premier

describes; Nov. p. 113.

freezer-transports, ten, built in Sweden for Soviet

fishing fleet; Nov. p. 113.

Japan building fishing craft for _____; Apr. p. 73.

new one for research launched; Jan. p. 73.

Polish-built factoryship delivered, new; Mar. p. 71.

Trinidad as base for fishing craft; Jan. p. 73.

underwater craft designed for Barents Sea

studies; July p. 76.

Whale distribution in northeast Pacific shown on

new _____ map; Sept. p. 56.

UNION OF SOVIET SOCIALIST REPUBLICS (U. S. S. R.) (cont.)

Whaling:

Antarctic:

- catch allocation, conference proposed by _____
for revision of; Nov. p. 72.
- fleet composition of 1963/64 season; Mar. p. 38.
- north Pacific operations; Sept. p. 10.

UNITED ARAB REPUBLIC

- Fish canning; Mar. p. 72.
- Foreign trade in fishery products, January-June 1963; Sept. p. 98.
- Outboard motors provided by FAO project; July p. 41.

UNITED KINGDOM

- Aden fisheries development project, _____ contributes to; Oct. p. 50.
- Boxing-fish-at-sea tests carried out by trawler; Mar. p. 73, Nov. p. 114.
- Canned fish marketing trends; Feb. p. 85.
- Danish-British fishery cooperation, talks on; May p. 77.
- European Fisheries Conference in London; Jan. p. 72, Feb. p. 59.
- Faroeese:
 - landings of iced fish in _____ may be subject to quota; May p. 49.
 - shipments of frozen fish to _____ may be subject to quota; May p. 49.
- Fish-drying process cut to 30 hours by new machine; July p. 80.
- Fishermen, trawler, get more pay and additional paid holidays; Mar. p. 72.
- Fishing industry; July p. 78.
- Fishing limits discussions between _____ and Norway; Sept. p. 49.
- Fleet, fishing; July p. 79.
- Freezer-ship-trawlers expanding, British fleet of; Jan. p. 71.
- Freezer-trawler:
 - fleet, newest addition ("Cape Kennedy") launched to; Sept. p. 98.
 - lands blocks of whole frozen fish; May p. 76.
 - new one sails on maiden voyage; Oct. p. 81.
- Frozen fish thawing unit, new; Mar. p. 73.
- Frozen processed fishery products production, 1963; July p. 79.
- Korean fish-factoryship, British freezing equipment ordered for; Apr. p. 76.
- Loans, fishery, interest rates revised; Jan. p. 71, Mar. p. 72, Apr. p. 75.
- Marine oil:
 - imports, 1962-1963; Oct. p. 80.
 - production from Antarctic whaling, 1962/63 season; Oct. p. 49.
 - utilization in margarine, 1962-1963; Oct. p. 81.
- Marketing:
 - information service for fish introduced by White Fish Authority; Aug. p. 86.
 - of fish; July p. 79.
- Norway signs agreement with _____ on fishing for dogfish and basking shark; Dec. p. 109.
- Oil explorations in North Sea discussed, danger to fisheries from; Oct. p. 80.
- Persian Gulf, commercial fishery to be developed by British firm in; Dec. p. 109.

UNITED KINGDOM

Polish:

- fisheries transshipment base in North Shields, England, during summer of 1963; June p. 56.
- fishing industry seeks cold-storage plant in _____; June p. 55.
- Portugal gets refrigeration equipment from _____ to modernize fishing industry; Oct. p. 76.
- Prices, new reserve auction first sales, introduced for fish landings; Apr. p. 75.
- Purse-seine vessels, two British-built, acquired by Chilean company; June p. 61.
- Salmon:
 - farming method developed in Norway attracts interest in _____; Nov. p. 115.
 - canned Japanese sale to _____; Dec. p. 100.
- Shark fillets, smoked, _____ markets first shipment of; Nov. p. 115.
- Shrimp, canned, Japanese exports to _____; Dec. p. 103.
- Silver cod trophy for 1963 won by trawler "Stella Leonis"; Mar. p. 75; correction May p. 77.
- Tariff(s):
 - reduction on certain fishery imports from EFTA countries; Apr. p. 40.
 - worldwide reduction asked by British Prime Minister; July p. 78.
- Trawler(s):
 - freezer-type, new, launched; Apr. p. 76.
 - giant boulder landed by; May p. 101.
 - silver cod trophy for 1963 won by "Stella Leonis"; Mar. p. 75; correction May p. 77.
- stern type:
 - Norwegian fishing factory lands frozen processed catch in _____; July p. 70.
 - refrigerated models, British firm plans to expand fleet of; July p. 79.
 - semiautomated "Daring" class to be built, two new; Dec. p. 115.
- Trawling, stern, reviewed at conference held in _____; Feb. p. 85.
- Trout farming method developed in Norway attracts interest in _____; Nov. p. 115.
- Tuna:
 - Fiji Islands base; July p. 59, Oct. p. 57.
 - Senegal to purchase four vessels from _____; Nov. p. 109.
- Underwater TV camera, improved-type, to aid in marine research; Jan. p. 71.
- U. S. exports of fishery products to _____ in 1962, trends in; Feb. p. 55.
- Vessel and gear research, White Fish Authority establishes Industrial Development Unit in Hull; Aug. p. 87.
- Vessels, fishing, two new Icelandic, delivered by _____ shipyard; July p. 56.
- Whaling 1963/64 season, _____ does not participate in; Mar. p. 38.

UNITED NATIONS

- Aden fisheries development project, _____ special fund contributes to; Oct. p. 50.
- El Salvador fisheries aid extended from _____ special fund; Dec. p. 91.
- Territorial Sea and the Contiguous Zone Convention enters into force; Oct. p. 49.

UNITED STATES

- Denmark appoints new Fisheries Attache for _____ and Canada; Nov. p. 83.

UNITED STATES (cont.)

- Fisheries important to _____; July p. 106.
 Fishery products, more, used in _____ in 1963;
 May p. 34.
 Fish-processing and freezing plant to be built in
 Alula (Somali Republic) as joint _____-Somali
 venture; June p. 58.
 Irish-_____ cooperation in joint fisheries projects;
 May p. 46.
 Japanese fisheries mission scheduled to visit _____
 and Canada; June p. 48.
 North American Fisheries Conference, participa-
 tion by _____ scheduled in; Dec. p. 70.
 Soviet:
 and _____ delegations discuss fishing gear con-
 flicts in northeastern Pacific Ocean; Sept. p. 51.
 fisheries in 1963, with emphasis on activities off
 coasts, overall view of; Nov. Supplement
 p. 15.
 Tuna:
 frozen, Japanese sales to _____ continued slow,
 July-Aug. 1964; Nov. p. 89.
 Japanese delegation to _____ being considered;
 July p. 60.

UNITED STATES COURT OF APPEALS

- Federal Maritime Commission order for lower
 Alaska transportation rates stayed by _____; Sept.
 p. 104.

UNIVERSITY OF MIAMI

- Institute of Marine Science:
 billfish research cruise by M/V "John Elliott
 Pillsbury"; Sept. p. 28.
 vessels, research, not subject to union rules;
 Aug. p. 35.
 Oceanography grants awarded for sea floor studies;
 Aug. p. 36.

UNLOADER

- Mechanical _____ for fishing vessels being devel-
 oped; Aug. p. 32.

UNLOADING FISH

- Air pump for _____; Aug. p. 21.

VEGETATION

- Water _____ in ponds, grass carp from Malaysia
 to fight; Dec. p. 26.

VENEZUELA

- Exploratory fishing survey off the coast of _____
 by M/V "Oregon"; Jan. p. 12.
 Shrimp-processing plant, new; Feb. p. 87.

VESSEL(S)

- Aden's fisheries research _____, new; Feb. p. 66.
 Alaska:
 fishermen, six new _____ being built for; June p. 9.
 southeast, gear count for registered fishing _____
 completed; Aug. p. 13.
 Aluminum fish hold for Japanese fishing _____;
 Dec. p. 102.
 Ceylon negotiates abroad for purchase of tuna and
 trawling _____; Nov. p. 80.
 Charter fishing _____ loan regulations; Aug. p. 95.
 Coast Guard, U. S., commissions new search and
 rescue "Vigilant"; Dec. p. 63.
 Construction assistance for fishing _____, proposed
 regulations announced for; Dec. p. 121.

VESSEL(S)

- Factoryships, small stern-fishing, ordered by New-
 foundland (Canada) firm from Dutch shipyard; July
 p. 49.
 Fisheries Loan Fund and other financial aid for
 _____; Feb. p. 52, June p. 29, Aug. p. 42, Nov. p. 61.
 Fishing Fleet Improvement Act, proposed regulations
 announced for notice and hearing requirements of;
 Dec. p. 123.
 Freezership-trawler M/S "Geizer" for Soviet Union,
 Danish shipyard builds; Oct. p. 56.
 German Federal Republic research _____ "Meteor
 II"; Feb. p. 68.
 Icelandic fishing _____, two new, delivered by Brit-
 ish shipyard; July p. 56.
 Israel's freezer-trawler "Azgad II," new; Apr. p. 59.
 Italy's Atlantic operations, fishing fleet and planned
 additions in 1964 for; Dec. p. 96.
 Japan:
 construction permits for fishing _____, late 1963;
 Feb. p. 73, Mar. p. 63.
 engines, high speed, recommended for fishing
 _____; Mar. p. 63.
 Fisheries Agency to build large research _____;
 Nov. p. 98.
 Korea, Republic of:
 Italian-French fishing _____ contract modified;
 Apr. p. 62.
 specifications of fishing fleet ordered from France;
 Dec. p. 105.
 Mexico's four fishery training _____; Nov. p. 102.
 Motors, outboard, increase fishing efficiency of
 traditional craft in six countries; July p. 40.
 Netherlands' trawler "Tinie Cornelia," new dual-
 purpose; July p. 69.
 New England fishing _____ use signal for Soviets to
 yield right of way; July p. 23.
 Poland:
 construction program for fishing _____; Nov. p. 107.
 trawlers, specifications and description of; Nov.
 p. 108.
 Purse-seiners:
 charters sought by Washington State Department of
 Fisheries for; June p. 32.
 two British-built acquired by Chilean company;
 June p. 61.
 Refrigeration aboard fishing _____, developments in;
 Mar. p. 48.
 Research _____:
 Bureau of Commercial Fisheries, U. S.:
 "Geronimo" participates in EQUALANT III in
 Gulf of Guinea; Apr. p. 47.
 new _____ commissioned for; Mar. p. 32.
 Duke University to acquire new one; Jan. p. 27.
 East German fishery participates in joint project;
 Jan. p. 73.
 exploratory fishing _____, new, "Delaware II" to be
 built as; Aug. p. 44.
 German Federal Republic's "Walther Herwig" com-
 missioned; July p. 53.
 Miami University craft not subject to union rules;
 Aug. p. 35.
 "Oceanographer" launched; June p. 23.
 oceanographic _____, new, for Beaudette Founda-
 tion for Biological Research; Apr. p. 27.
 platform with derrick, small portable marine
 work; Nov. p. 50.
 "Silas Bent" launched, new oceanographic _____;
 Oct. p. 32.
 Soviets launch new one; Jan. p. 73.

VESSEL(S) (cont.)

- Research (cont.):
 submarine, deep-diving, for oceanographic work commissioned by Woods Hole Oceanographic Institution; Aug. p. 36.
 "Thomas G. Thompson" launched; Oct. p. 32.
 "Townsend Cromwell" completes successful maiden voyage; May p. 13.
 "Trident" completes first year of operation; Jan. p. 27.
 "Yaquina" commissioned by Oregon State University; Dec. p. 55.
 Sailing _____, "Bluenose"--Canada's most famous; Oct. outside back cover.
 Shrimp otter trawlers in the Gulf of Mexico, U. S. utilization of, 1959-1961; Feb. p. 1.
 South Africa Republic:
 drum-trawl fishing, new _____ equipped for; Sept. p. 95.
 fiberglass _____ successful in pilchard fishery; Nov. p. 112.
 Stability of fishing _____ Panel of Experts holds first session in London, July 13-17, 1964; Oct. p. 47.
 Stern-trawler "Canyon Prince," new small; Nov. p. 61.
 Structural research for small _____, Denmark plans meeting on; Sept. p. 64.
 Submarine, deep-diving, for Woods Hole Oceanographic Institution; Apr. p. 25.
 Swordfish vessel "Chilmark Sword," new, delivered; Dec. p. 64.
 Trawler, Norwegian stern-fishing factory, lands frozen processed in catch in England; July p. 70.
 Union of Soviet Socialist Republics (U.S.S.R.):
 freezer-transport _____, ten, built in Sweden for fishing fleet; Nov. p. 113.
 freezer-trawlers:
 four new ones delivered to Soviet Atlantic fishing fleet; May p. 76.
 new series under construction in Denmark; Mar. p. 70.
 Japan builds fishing _____ for; Apr. p. 73.
 Polish-built factoryship delivered, new; Mar. p. 71.
 underwater craft designed for Barents Sea studies; July p. 76.
 United Kingdom:
 freezer-trawler:
 new one launched; Apr. p. 76.
 new one sails on maiden voyage; Oct. p. 81.
 trawlers of "Daring" class to be built, two new semiautomated; Dec. p. 115.
 White Fish Authority _____ research by (Hull) Industrial Development Unit; Aug. p. 87.
 United States:
 Fishing Fleet Improvement Act construction assistance for fishing _____, proposed regulations announced for; Dec. p. 121.
 fishing _____ documents issued and cancelled; Jan. p. 33, Feb. pp. 53, 54, Apr. p. 35, June pp. 30, 31, Aug. p. 42, Sept. p. 43, Nov. pp. 59, 60, Dec. p. 65.
 Unloading fishing _____, "airlift" pump developed by Canada for; Mar. p. 48.
 Whaling:
 catcher _____, two Netherlands, sold to Norway; Oct. p. 73.
 factoryship, Netherlands, sold to Japan; Oct. p. 73.
 Yugoslavia's construction plan, 1964-1970; Dec. p. 115.

VESSEL SEIZURES

- Canada convicts Spanish trawler for violation of territorial waters; Sept. p. 59.

VETERANS ADMINISTRATION, U. S.

- Canned fish, estimated requirements from 1964 packs; Apr. p. 16.

VIETNAM, SOUTH

- Shrimp:
 exports from _____ to Japan up in 1963; July p. 80.
 fishing potential; May p. 72.

VIRGINIA

- Chesapeake Research Council organized; Sept. p. 17.
 Clam, surf, survey off Maryland and _____; Nov. p. 41.
 Oysters:
 disease-resistant breeding stock; Sept. p. 36.
 James River seed beds, light strike in 1964 in; Nov. p. 51.

VIRGINIA INSTITUTE OF MARINE SCIENCE

- Chesapeake Bay research conference points up problem areas; Apr. p. 13.
 Oysters, development of disease-resistant strains; Nov. p. 52.

WAGES

- California fishermen's _____, 1962; Feb. p. 11.
 Discrimination on account of sex, new regulations prohibit; Aug. p. 97.
 Minimum _____, new, for onshore fishery workers; Nov. p. 64.
 Shellfish industry _____, Labor Department to make another survey of; Mar. p. 77.

WASHINGTON

- Bottomfish trawling survey off _____ coast by M/V "John N. Cobb," cruise 65; Sept. p. 31.
 Crab fishermen's organization in _____ State, FTC bars restraint of trade by; Oct. p. 83.
 Federal funds allocated to State of _____ for fisheries program; Sept. p. 18.
 Fishery technicians to be trained at Peninsula College; May p. 37.
 Landings of fish and shellfish, 1963; May p. 36.
 Medical help, emergency, instructions for fishermen; Nov. p. 58.
 Puget Sound and adjacent waters fish and wildlife resources, survey of; Nov. p. 64.
 Purse-seine vessel charters sought by Department of Fisheries; June p. 32.
 Rail-barge service expanded for Alaska-_____; Feb. p. 52.
 Salmon:
 fish farm, new, established by cooperative effort; May p. 31.
 Northwest rivers receive record plants of silver and spring chinook yearlings; June p. 25.
 planting program continues; July p. 36.
 sport fishermen catch in 1963; May p. 37.
 tagging in Puget Sound continued; Aug. p. 45.
 Yakima River, excessive fishing damages chinook run in; Dec. p. 67.
 Shark, dogfish, hatchery fish feed from; July p. 37.
 Shellfish industry affected by recent disasters; Oct. p. 37.
 Steelhead trout incidental catch minimized by larger mesh nets; June p. 32.

WASHINGTON (cont.)

Willapa Bay oyster industry study approved by ARA; Feb. p. 88.

WASTE WATER

Fish reduction industry, _____ purification and protein extraction process may be applied to; Aug. p. 61.

WEATHER

Gulf of Mexico, storm warning buoys for; Nov. p. 65.
Machine, new, developed to predict _____; Nov. Supplement p. 34.

WEEDS (see AQUATIC WEEDS)

WEIGHTS AND MEASURES

Standards and inspection programs for fishery products, USDI, weights and measures activities in the; Oct. p. 8.

WEST AFRICA

Japanese:

distant-water trawl fisheries, future of; Mar. p. 61.
fishery developments in _____; Apr. p. 61.
trawlers, stern, sent to _____ fishing grounds; July p. 65.

Trawl fishery in Atlantic, Japanese, 1963; Sept. p. 77.

Tuna:

Japanese:

firm to operate purse-seine fleet off coast of _____; Aug. p. 70.
negotiate with Portuguese firm for base off _____ coast; Sept. p. 72.
test new long-line gear off _____ coast; Feb. p. 73.

WESTERN EUROPEAN FISHERIES CONFERENCE

Denmark ratifies fisheries convention and extension of fishing limits; Aug. p. 61.

WHALE MEAT

Japan:

Antarctic production, 1962/63 season; Mar. p. 61.
Antarctic production, 1963/64; Sept. p. 80.
Fisheries Agency approves Japanese-Chilean meat sales agreement; Nov. p. 97.

WHALE OIL

Antarctic:

Japanese fleets look for better market in 1964; Jan. p. 60.
production, 1962/63 and 1963/64 seasons; Oct. p. 49.

Japan:

export targets; June p. 46.
production, 1962/63 season; Mar. p. 61.
Norway's Antarctic production, Feb. 8, 1964; Apr. p. 68.
Peru's exports, 1963; Aug. p. 83.

WHALE(S)

Marking project off southern California; June p. 33.
Pacific, northeast, distribution shown on new Soviet map; Sept. p. 56.
South Africa Republic catch, 1963; Nov. p. 111.

WHALING

Antarctic:

catch allocation, Soviets propose conference for revision of; Nov. p. 72.

WHALING

Antarctic:

fin-whale catch, FAO appeals for voluntary limits on; Jan. p. 41.

fleet composition of 1963/64 season; Mar. p. 38.

Japan:

fleets' composition and production targets, 1963/64; Jan. p. 59.
fleets look for better oil market in 1963/64; Jan. p. 60.

industry trends; May p. 62.

Norwegian industry encouraged by higher oil prices; Jan. p. 65.

outlook for 1963/64 season; Apr. p. 49.

Chile issues new regulations on foreign permits; June p. 38.

International _____ Commission:

regulations amended; Aug. p. 92.
16th annual meeting held at Sandefjord, Norway; Aug. p. 52, Sept. p. 54.

Japan:

Alaska, activity during June off; Sept. p. 11.

Antarctic:

catch and products produced, 1963/64; Sept. p. 80.
fleets; May p. 62.

Brazilian-Japanese joint enterprise to continue operations; Apr. p. 62, June p. 37.

Brazil, _____ operations off; May p. 62, Oct. p. 52.
catcher vessels off Chile, licenses issued to operate two; Mar. p. 62.

Chilean firm, whalers begin operations for; June p. 38.

Dutch factoryship:

Japanese Fisheries Agency authorizes purchase of; Oct. p. 72.

may be purchased by Japanese; Aug. p. 76.

Ecuador operation presents problems; May p. 62.
foreign-based operations studied, establishment of; Mar. p. 61.

Mexican joint venture in Mexico proposed; Nov. p. 102.

Netherlands factoryship sale offer, decision postponed on; Apr. p. 62.

oil and meat production, 1962/63 season; Mar. p. 61.

South America bases to be surveyed by _____ firm; Apr. p. 62.

South Georgia Island base, fishing company plans to close; May p. 63.

Netherlands:

Antarctic results, 1963/64 season; Mar. p. 65.
July p. 69.

catcher vessels, two, sold to Norway; Oct. p. 73.
factoryship offered for sale to Japan; Apr. p. 66.
factoryship sold to Japan; Oct. p. 73.

North Pacific Soviet fleet to be increased; July p. 76.

Norway's industry trends; May p. 70, June p. 52.

Pacific coast _____ licenses; June p. 64.

Pacific, northeast, whale distribution shown on new Soviet map; Sept. p. 56.

Sperm _____ by New Zealand promising in early 1964; Sept. p. 85.

Sweden withdraws from International _____ Convention; Apr. p. 72.

U.S.S.R. _____ in north Pacific; Sept. p. 10.

WHALING COMMISSION, INTERNATIONAL

Regulations amended; Aug. p. 92.

Sixteenth annual meeting held; Aug. p. 52, Sept. p. 54.

U. S. whale marking project off southern California; June p. 33.

WHALING CONVENTION, INTERNATIONAL

Norway's withdrawal proposed again; Jan. p. 67.
Sweden withdraws; Apr. p. 72.

WHITEFISH

Lake Superior, western, spawning _____ assessed
by research vessel "Siscowet"; Mar. p. 17.

WHITE HOUSE

San Pedro Fishermen's Fiesta, President lauds;
Dec. p. 127.

WHITING

Georges Bank abundance holding up despite heavier
fishing; July p. 23.
North Atlantic escapement study by M/V "Dela-
ware"; Nov. p. 22.

WHOLESALE PRICES (see PRICES)**WISCONSIN**

Fish meal and oil plant, ARA industrial loan to help
establish new; Oct. p. 82.
Great Lakes fishery landings, 1963; May p. 39.

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Game fish tagging program report for 1963; Feb.
p. 52.

WORLD

Fisheries development _____ role of FAO, ad hoc
committee to study; Dec. p. 73.
Fish meal:
production, Aug.-Oct. 1964; Feb. p. 59.
supply indicators for principal importing and ex-
porting countries, 1963; Aug. p. 48.
trade, 1958-1963; Oct. p. 44.
Fish oil exports, 1963; Sept. p. 50.
Landings, fishery; Mar. p. 36, Dec. p. 70.
Tuna-like fish catch, 1962; Mar. p. 36.

WORLD BANK

Taiwan's tuna fisheries aided by loan for purchase
of new fishing vessels; May p. 74.

WORLD FISHING GEAR CONGRESS, SECOND

Report on _____; May p. 1.

WORLD FOOD PROGRAM

Fishery products in the _____; Feb. p. 60.

WORLD HEALTH ORGANIZATION

Codex Alimentarius Commission:
Food Hygiene Worldwide Expert Committee meets
in Washington; Dec. p. 76.
Second Session meets in Geneva; Dec. p. 75.
International Atomic Energy Agency requests re-
search by _____ on control of harmful organisms
in foods and animal feeds; Sept. p. 53.
Sanitary regulations in international traffic in
animals and animal products, need for; Dec. p. 74.

WORLD TRADE

FAO model standard for _____ in fishery products
worked out by fisheries group; May p. 40.

WORLD'S FAIR

Sardines, Maine, displayed at the _____; June p. 19.

YELLOW PERCH

Filleting machine now in operation in Great Lakes
region; Apr. p. 16.
Lake Erie landings down sharply in 1964; Nov. p. 33.
Lake Michigan seasonal distribution and abundance
studies continued by M/V "Kaho"; Nov. p. 33, Dec.
p. 40.

YELLOW PIKE

Lake Erie commercial landings increase predicted;
Mar. p. 34.

YUGOSLAVIA

Ceylon receives fishing trawler built in _____; Dec.
p. 89.
Fisheries development program, 1964-1970; Dec.
p. 115.
Fisheries trends, 1964; Dec. p. 115.
Fish meal plant opened at Zadar and 4 other new
plants planned; Dec. p. 115.
Tuna:
frozen, Japanese exports to _____; Mar. p. 56.
Japanese to survey market in _____; Oct. p. 81.
vessels to be built for Atlantic fishing; Dec. p. 115.
Tunisian economic aid program, _____ to build
fishing vessels under; Jan. p. 70.
Vessels:
construction plan, 1964-1970; Dec. p. 115.
trawlers ordered by Ceylon in _____; Nov. p. 80.

ZANZIBAR

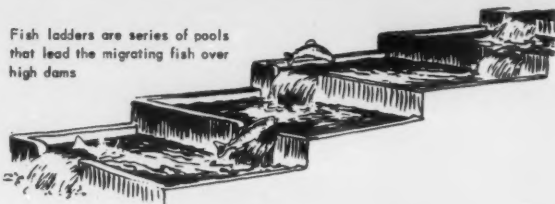
Commission for Technical Cooperation in Africa
crustaceans specialist meeting held in _____;
Apr. p. 40.
Outboard motors provided by FAO project; July p. 41.



Created in 1949, the Department of the Interior—a department of conservation—is concerned with the management, conservation, and development of the Nation's water, fish, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States—now and in the future.

Fish ladders are series of pools that lead the migrating fish over high dams



WHAT MAN MUST KNOW ABOUT FISH

Men have been fishing for thousands of years but know comparatively little about fish and what affects their abundance and movements. "Sea culture" is a new science and the restlessness of the ocean complicates our efforts to unlock its secrets.

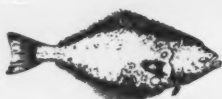
The supply of fish in the ocean is not inexhaustible and Man must practice conservation in the sea just as he is beginning to practice conservation on the land.

When, where, and how many.--A most important fact the fishery conservationist must learn is the "maximum sustainable yield" of each species--that is, the greatest number that can be harvested each year yet leave enough for harvesting the next year and the next. The conservationist must also predict when and where the fish are available to the fishermen. The fishermen can then prepare for big or small harvests as conditions warrant. "Predicting abundance" is a primary objective of fishery scientists since it provides a basis for regulating the catch and can be an important factor in increasing fishing efficiency.

How, how, and how.--But knowing "when, where, and how many" is only part of the work of the fishery conservationist. He must be able to tell the fishing industry *how* to make the best possible catch without damage to the resource; *how* to get high-quality fishery products to the family table at a reasonable price; and *how* to make the best use of fish for industrial purposes.

Intriguing mysteries.--Solving these problems include finding the reason why a species such as the tilefish suddenly disappears from its haunts and is missing for years to reappear suddenly in great numbers; the reason for heavy mortality of a species when known conditions appear normal; the "spark" which causes the "red tide" organism to suddenly increase in numbers, killing millions of fish.

Some recognized dangers.--Predators, such as squawfish awaiting young salmon at a river mouth; starfish and drills ruining an oyster harvest; green crabs killing clams; sea lamprey attacking the Great Lakes trout, must be controlled. Obstructions, such as dams blocking fish runs; irrigation outlets and power turbine intakes diverting fish from their course, must be bypassed. Silt that covers spawning grounds and shellfish beds or ruins growth of aquatic plants by making the water too murky for sunlight to penetrate; water fluctuations that drown out or dry up spawning areas; domestic and industrial pollution; careless use of pesticides, all pose problems of great concern to the conservationist.



The flat-bodied halibut spends most of its life buried in the sand on the ocean floor



The brilliantly colored tilefish lives in northern waters although it belongs to a tropical family



Salmon on their nest



Electrical barriers stop adult lampreys moving upstream to spawn

--Conservation Note 2,
Commercial Fisheries of the United States (Revised Aug. 1964),
U. S. Fish and Wildlife Service, Washington, D. C. 20240.

180

94

FISHERY MARKET NEWS

**PRICES, RECEIPTS, LANDINGS,
AVAILABLE**

a.m.

the same day!

p.m.

4



